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THEME:
The School of the Future—1985

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The School of the Future—1985

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Leonard S. Kenworthy

Education for the Community of 1985

New curricula are needed in a new and emerging world.

IN MY files is a fat folder marked "The World of Tomorrow" into which, in recent years, I have dropped many articles. To glance through this folder and to contemplate the shape of things to come is both exciting and frightening.

One article reports on 2000-ton supersonic passenger planes traveling at more than 1000 miles per hour and carrying 300 to 400 passengers. The target date —1965.

Another describes the new superliners to Europe carrying 6000 passengers each, at a cost of $50 per person each way. The probable date of launching—1962.

A third is the report of a speech by Dr. Bortz, a former president of the American Medical Association, in which he predicts a life span of 125 to 150 years.

An article by David Sarnoff of the Radio Corporation of America forecasts atomic batteries "long before 1980" and a new form of light known as electronic light.

Other articles predict the use of solar and atomic power for homes, automation on farms, electronic air-conditioning, and large-scale climate control.

But there are also articles on the threat of overpopulation, on the explosive potentialities in the widening gap between "have" and "have-not" nations, on the likelihood of widespread racial conflicts, and on the terrifying possibilities of a super-scientific war with nuclear, chemical, and biological weapons.

With changes coming so rapidly, one realizes how risky it is to hazard guesses on the state of the world even in the next few months and how ridiculous it is to write with certainty about the world 25 years hence. Who, for example, would have said a year ago that the Belgian Congo would be independent in 1960? Yet its freedom this year seems assured.

All one can judiciously do is to sketch in thin pencil lines the general trends in the foreseeable future, realizing that this

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may mean a period of only a few months or, at most, a few years. Here, then, are a few characteristics of the years ahead of which we can be reasonably certain:

The world of tomorrow will be a world of four or five billion persons.

The world of tomorrow will be a world of airplanes, jets, and space ships.

The world of tomorrow will be one of vastly different communication systems.

The world of tomorrow will be one of atomic power and automation.

The world of tomorrow will be one of increased leisure time.

The world of tomorrow will be one of new political alignments and new world powers.

The world of tomorrow will be marked by ideological competitions.

The world of tomorrow will be a world of tremendous mobility of populations.

Scarcely any of our schools in the United States have wrestled realistically with the curriculum changes which such trends suggest. Most schools are still satisfied with their existing curricula, which were designed for an 18th or 19th century rather than a 20th or 21st century world.

Changes We Need To Make

There are many changes which need to be made in our curricula in order to prepare boys and girls to live in the next 25 years—and beyond. Some are merely changes in emphasis; others are of a more drastic nature. The writer would like to propose ten points on which all schools should concentrate in the next few months in order to develop curricula for the 20th and 21st centuries.

1. *More and better education in human relations.*

In the final address which Franklin Roosevelt wrote, he asserted that "Today we are faced with the preeminent fact that, if civilization is to survive, we must cultivate the science of human relations —the ability of all peoples of all kinds to live together in peace."

Today's children are going to have to live with three to four billion neighbors in a closely knit international community. They need to understand that there are many similarities among all these people. They need to understand, too, that there are many differences. And they need to learn to respect differences.

Education for living in the international community begins with self-understanding and self-respect. All we can do to help children to like themselves in order that they can like others is important. Our curricula need to be examined critically at all levels to see how effectively this basic job is being done.

2. *More and better education about all parts of the world.*

Most schools are still preparing pupils for a Europe-centered world. They offer European history or stress Europe in world history. They concentrate upon European art, European music, and European literature. They give only European languages.

Such an education was sufficient in the 19th century and even in the early part of the 20th century. It is woefully inadequate for boys and girls who are going to live in an international community in which Europe is but one important part.

We need now to examine critically our entire curricula from the primary grades through high school (or beyond) to see how existing courses can be changed to include the whole world. And we may need to introduce new courses which will expose children to the entire world of our day.

In order to avoid superficiality, our curricula will need to select important aspects of the world and concentrate upon them rather than trying to "cover" every part of the world and every phase of human activity.

3. *More and better education about the contributions of all peoples to the world.*

Much has been written in recent months about "Ugly Americans." Their basic fault is arrogance. They tend to think that other peoples are primitive, backward, uncivilized, and that the Americans have all the answers to the problems of the world.

Humility has never been an outstanding characteristic of our nation, but we must begin to develop this trait if we expect to live with others in an international community.

We need to help pupils see that every group of people, every country, and every culture is proud of its past and its present and that each has contributed to the richness of the world. Boys and girls need to learn that every group of human beings does some things well and some things poorly and that we can learn from each other.

This is a basic theme which should run throughout the curriculum and be stressed in science, literature, art, music, homemaking, mathematics, and social studies classes. Pupils should learn that variety and diversity are often good and that creativity exists in every human group.

4. *A more realistic treatment of world problems.*

At every grade level and in every subject field teachers need to keep in mind the fact that people everywhere and in every period of history have wrestled with certain basic problems. Teachers need to examine their work to see how this aspect of teaching can be included in day to day discussions.

Similarly they need to stress the fact that all problems today are international in nature. What happens in Little Rock or in Johannesburg is known within a short time and affects people everywhere.

Pupils also need to learn that the problems of today's world include land reform, decent water at the village wells, primary education, and decent health standards as well as disarmament, colonialism and imperialism, atomic energy, and war. Too often our teaching concentrates on the latter group of problems to the exclusion of the former. Both sets of problems are important.

5. *More and better teaching about the fun and beauty in the world.*

As adults we are rightly concerned with the problems of the world. We know that we must find solutions to some of these situations if we are to survive.

But we should not always introduce boys and girls, especially in the early grades, to a threatening world. Our curricula should help them to experience some of the beauty and fun of the world.

This can be done in many fields and in all grade levels. Physical education teachers can help children and youth to enjoy the dances of many peoples. Art teachers can help children and youth to appreciate the creativity of people everywhere. Literature teachers can help boys and girls to enjoy the varied forms in which people have expressed themselves over the ages and in all parts of the globe. Teachers in other fields can examine their courses of study to see where they can stress this aspect of education.

All of us can be enriched if we bear in mind this basic aim of education for international understanding.

6. *More and better understanding of the potentialities of science in our world.*

Today's world accents science and tomorrow's world will probably accent it even more. Consequently, pupils need to begin early to understand the scientific world around them and to adjust to it.

But we need to place far more attention on the social responsibility of science than we have in the past. We need to develop scientists who are also socially sensitive. Otherwise science will become a curse rather than a blessing.

Some progress has been made in recent years in improving science in the elementary grades. Much more needs to be done, however, to make it an effective and integral part of the experience of every child in elementary and in secondary schools. We all need to examine our curricula to see whether a good balance is being maintained between the training of experts and the training of the general body of pupils. We need both types of education for pupils who are going to live in the next twenty five to fifty years.

7. *More and better education in communication.*

One of the areas in which Americans are still woefully weak is that of modern languages. In a closely knit world we are going to have to learn other languages and to look upon them as "other" means of communication rather than "foreign."

The closeness of our modern world will help to provide us with the motivation which has been lacking. But the popularity of English as an international language may, unless we are very alert, make us insensitive to the need for learning Chinese, Russian, Hindi, Arabic, or other languages spoken by large groups of our world neighbors.

We need to bear in mind, too, that language is only one means of communication. We need to continue our support of pen pal programs, the work of the Junior Red Cross, UNESCO, CARE, and similar programs.

But I hope that in the next few years schools will begin to develop "affiliations" with schools in other parts of the world so that every child will have had some continuing experience in his 12 or more years of education with pupils in at least three or four parts of the world. Personally I view such affiliations as the most promising practice in international-intercultural education because they include parents and teachers as well as pupils, because they continue over a period of years, because they are primarily exchanges rather than one-way giving programs, and because they bring vitality to many parts of the curriculum.

8. *More and better education about the relation of the United States to the world.*

Most Americans are oversensitive about criticisms of our nation by the people of other countries. They feel that if others knew more about us, they would certainly like us better.

Certainly we need to interpret our way of life better in other parts of the world. But we also need to help pupils as well as adults to understand that our society is far from perfect and only as we improve certain aspects of it will we win more respect around the world.

Pupils need to know that improving democracy at home is as essential as trying to spread it abroad. They need to realize that the two are inextricably interwoven. This should mean more and more concentration on improving our attitudes and actions on race relations, civil liberties, family life, and other as-

pects of our society in every community in the U.S.A.

9. *More and better experiences for pupils and teachers abroad.*

Margaret Mead has pointed out that, "You can have education about international understanding but not education in international understanding without close contact with people from other parts of the world."

In the years ahead we need to develop far more and far better use of the thousands of students from abroad who are in our colleges and universities than we are doing at present, getting them off the lecture platform and into classrooms and homes.

Every teacher in the years ahead should have a fairly long experience in two countries outside the United States as a part of his or her teacher education program.

And school systems should begin to plan for the use of airplanes and boats for school trips, just as they began to use busses for school journeys not too many years ago. With increased facilities and with reduced costs this is a real possibility rather than a crazy dream.

10. *More and better education about the world in all grades and in all subjects.*

Preparing boys and girls to live in the rapidly changing world of the present and future cannot be done in one grade or even in a group of grades. It cannot be done by any one subject. This task demands a cumulative and comprehensive program throughout the school years—and beyond.

It is high time that schools and school systems begin to examine their total programs with respect to educating boys and girls to live effectively in the international community which is painfully and slowly emerging. They need to select some basic goals which can be stressed at all grade levels and in all subjects and to spend several months examining ways in which to implement such goals.[1]

It is highly possible that in the next few years many school systems will decide to develop two two-year sequences in secondary schools. The first would be in grades nine and ten and would concentrate upon the world; the second would be in grades 11 and 12 and would concentrate upon the United States, including its relationships with the world.

In such a two-year sequence, teams of teachers representing the social studies, literature, and art and music would work together in integrated or correlated programs studying as many phases as possible of the different cultural areas of the world, with strong emphasis upon geography and history. But this is only one pattern of curriculum which is possible.

In conclusion, stress in the past has been upon the child-centered school and upon the community-centered school. Neither of these emphases needs to be discarded. But our schools in the years ahead need to add a new dimension—the world-centered school. Actually this is merely an extension of the community school, for the community of the future will be the world.

[1] For an attempt to develop ten basic themes about the world see Leonard S. Kenworthy, *Introducing Children to the World: In Elementary and Junior High Schools,* New York: Harper and Brothers, 1956, 268 p. For suggestions on the world dimension in various subject fields see Leonard S. Kenworthy, editor, *International Understanding Through the Secondary School Curriculum,* Washington, D.C.: National Association of Secondary-School Principals, 1956, 303 p. A few copies are still available for $1 each from World Affairs Materials, Brooklyn College, Brooklyn 10, N.Y.

"Best practices" in
a few schools today
may be widespread tomorrow.

J. Murray Lee

Elementary Education: 1985

WHAT will the elementary school be like 25 years from today? Perhaps it will help us to look back at the elementary school of 25 years ago—1935. The testing movement of the 20's had a firm impact. Individual differences were being given considerable attention. Unit teaching was utilized in the better elementary schools. Considerable effort was being expended to provide a more flexible day for the elementary school pupil. Significant implications from research in child development were being given consideration in curriculum planning. In some areas educational radio was making its contribution to the schools.

Today, after 25 years, many of these trends have grown into maturity, with educational television replacing radio. Perhaps the greatest advances have been in media and materials which are available in the elementary school. Texts have been greatly improved, supplementary books and educational films have increased markedly both in number and quality. Tapes and recordings have served many uses. In addition, improvement of school buildings, some increase in the training of teachers, and elimination of many small districts have had an influence on the elementary school program.

Suppose we could look 25 years into the future. We are in a period of rapidly accelerating change. It seems safe to predict that the changes during the next 25 years will be more rapid and of greater significance than the changes of the past 25. We are clearly moving into a period of greater concern. Public interest in education is high, more money is available for research, the challenges of the future are pressing. The atmosphere thus developed for change will undoubtedly accelerate change.

Buildings

The elementary school building for tomorrow will be a one-story structure accommodating between 500 and 1000. There will be many specialized facilities which are not available in the ordinary schools of today. Special rooms will include a health and psychological center,

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a library, a cafeteria, a gymnasium which may be a multi-purpose room with showers, conference rooms for use of teachers and parents, and outdoor areas. There will be access to a swimming pool. Between two classrooms there will be a work laboratory equipped for construction, science experiments, and even perhaps with individual booths for use of tape equipment, and automatic teaching machines. Each classroom will be equipped with a television set, tape recorder, record player, and typewriters. Each desk will have its own pencil sharpener. In many areas of the United States the school will be air conditioned as well as heated.

Staff

There will be a full-time supervising principal, a school secretary, and secretaries for every four to six elementary teachers.

Each classroom teacher will have a master's degree. He will also have an area of specialization, such as social studies, arithmetic, science, measurement, child development, and the other areas needed in the elementary school. Each teacher then, in turn, will serve as a resource person when his area of specialization is of concern to the faculty. The kindergarten teacher will teach half a day. She will have special training in individual testing, and in interviewing parents. She will use the afternoon for individual testing, home visitations, and for conducting child-study programs with the parents of the school.

The greatest change in consultant services available will be in the psychological area. There will be a child psychologist for every 2000 pupils. The case load will then be such that the psychologist may work effectively with individual pupils, teachers, and parents. The recognition that the ages five through twelve are of utmost importance in emotional development, second only to the age range birth to five, will thus be implemented by providing the necessary expert help at this age. Other consultants will include the commonly available ones of nurse, speech correctionist, art and music consultants, and elementary supervisor. Special education facilities will continue to be provided, with more attention being given to children with emotional problems. Adequate medical and dental services will be made available where these can not be provided for by the home.

Each school will have a full-time librarian with a clerical assistant who is in charge of all types of instructional materials. A physical education teacher will be available. He will be able to diagnose the physical and muscular development of children to a much greater extent than is possible today. He will also provide a more intensive, individualized program of muscular development in relation to each child's particular needs.

The probability is that new patterns of utilizing staff will be developed. At times the teacher may be working with much larger groups than at present, at other times with small groups or with individuals. Proposals for effective use of staff time should be carefully evaluated in terms of the effects of the new program on children. There has been too strong a tendency in many schools in the past to jump on attractive bandwagons. With the research techniques available today, the seductive glitter of the new should be carefully evaluated.

While a library with a full-time librarian is the heart of some elementary schools today, it will be taken for granted

in the schools of tomorrow. It will include books classified by reading level, pamphlets, picture files, record and transcription collections, science and arithmetic equipment, slides, filmstrips, tape collections including TV tape, films, museum-type materials, conference room, listening booths, transparency collections, professional materials for teachers, and files of community resources, including human resources. There will be adequate clerical help for the librarian.

Connected with the library will be a large individualized instruction room. The room will contain listening booths for the use of master or individualized tapes, and a whole series of teaching machines. Children will be assigned to the room for group or individual help. The tapes will provide assistance in teaching foreign language, music, phonics, in speech correction, and undoubtedly in other ways including perhaps giving a committee the opportunity to hear an outstanding leader from a country they are studying. Then there will be a large number of specific lessons, programmed for the teaching machine.

Often, when the teacher has diagnosed the specific difficulty of a child, certain lessons will be prescribed for helping the child with his difficulties. Also, in this room there will be larger booths containing a modified television set. Electronic tape, which promises to be one of the most versatile audio-visual resources of the future, can be placed in the television set for individual or committee viewing. The same tapes can be used for home study with all television sets equipped to handle tapes. The person in charge of such a room would not have to be a certified teacher, but he would be one who could locate materials and operate the machines.

Organization

There will be considerable experimentation with various patterns of organization. The great need is to have such experimentation carefully evaluated. In the primary grades a teacher undoubtedly will continue with his class for a two-year period. This will mean that children will have the opportunity to mature during a span of the present first and second grade without the usual pressures on the first grade teacher. The same plan may be followed during the third and fourth grades. The intermediate grades seem to offer more opportunity for a variety of plans of organization than do the primary grades. Basic to any plan will be a consideration of the best available experiences for boys and girls in all areas, rather than in one limited area, such as reading. Our lockstep graded system may have disappeared as have half grades in the past 25 years. With additional clerical help available to teachers, there will be opportunities to develop better instructional materials, better evaluative materials, more detailed cumulative records and to conduct better parent-teacher conferences.

Curriculum

In general, the elementary curriculum will have greater flexibility and at the same time, in certain areas, more uniformity. The uniformity will come from television which will bring to the classroom many learnings the teacher would find difficult, if not impossible, to supply. Television will also release the teacher for more individualized instruction.

Social studies is one area in which television undoubtedly will be most effective. There will be a great deal more

research identifying concepts, understandings, and misconceptions which students have in a given area. The broad areas for each level will be carefully selected. The important concepts which children can understand and which can be made meaningful will be utilized in planning. Such planning will, of necessity, involve the school personnel in the area served by the television program. The unique contribution which television can make will be made in programs telecast two or three times a week. Comprehensive study guides will be prepared on an area basis which will include references, suggested experiences, and visual and auditory materials. The teacher will have time available then to work with individuals and groups. There are implications in this situation for the establishment of a new type of state-supported curriculum planning staff on a level between present state departments of education and local school systems.

Reading programs will include much more individualized reading. In the first grade this individualization will be accomplished through students' drawing pictures, and telling the teacher or clerk about the picture. This will be recorded on a dictaphone or tape and transcribed by the clerk, for the child's own reading. Throughout the primary grades much greater use will be made of the child's own stories as a basis for reading, for typing them will be relatively easy. Obviously, such a program needs to be handled by a teacher who is thoroughly familiar with the developmental skills in reading and can supplement these with group or individual instruction. In some cases, this instruction may be handled partially by the teaching machine.

More attention will be given to physical and motor development, for the physical education teacher will be an expert in this area. Specific provision will be made for muscular development for all children with specific help on individual cases. School camping and exchange visits both in and out of the country will become much more common.

Programs will be developed that will provide the non-verbal child with feelings of success. Such programs will be greatly accelerated with the provisions for proper psychological counseling of emotional problems. Breakthroughs in biochemistry may develop techniques of medication which will greatly assist children with learning or emotional problems.

Research

In all areas research will help us with the selection of important concepts, avoid duplication and omission of significant generalizations, and obtain a better understanding of what children already know through pre-testing of concepts. Integration of subject fields will increase, but this integration will be carefully planned rather than incidental. For instance, increased emphasis on concepts of physical and mental health will be developed in social studies by careful analysis and allocation of concepts and experiences. New materials and methods will be available for enriching programs for gifted children which will really challenge their learning abilities.

More attention will be given to the development of critical thinking, problem solving, and creative thinking. One of our current difficulties is that so much of our elementary curriculum consists of materials to be learned by the student. In 1985 we will be approaching learning of important content through techniques

requiring comparison and evaluation, anticipation of probable outcomes, and creative questions such as, "If this development had taken place, what would have happened?" The approach will be to develop more openmindedness and questioning on the part of the student rather than a mastery of certain specific procedures.

Creative experiences for children will become increasingly effective. We will improve our understanding of how to encourage creative expression in art. Opportunities for developing appreciation of music and literature will increase as additional materials are made available in recordings and in television tapes. More media in all the creative areas will be utilized. Such developments will become increasingly important as leisure time increases due to automation.

Many elementary children will learn a second language taught through television, tapes and recordings, texts, and reading materials. Mathematics and science will undergo rather marked changes. Basic ideas and principles will be taught earlier by utilizing techniques of discovery through experimentation. Typing will be a skill universally taught.

In-Service Programs

Due to the introduction of new content and teaching procedures, there will be an emphasis in in-service programs on familiarizing teachers with the necessary content. Much of this work will be presented over television to teachers of an entire area. Such programs will then be followed up in local schools, utilizing their own leadership. Every staff member will have the responsibility of helping to keep the staff up-to-date on experimentation in one of the various areas. More professional materials will be available in each school. Included will be material to strengthen the subject-matter backgrounds of teachers in new or reorganized content.

Parents

There will be more child study groups, again utilizing TV and supplemented by the skills of the kindergarten teacher. Parents will be used as resource leaders and to help where possible in various phases of the school program. Not only will parent-teacher conferences be universal, but many will be held over a Phonovision. Consultants will be available to work with parents of children having special problems, including emotional difficulties.

Many of these seemingly visionary ideas are operating in one or more school systems throughout the United States. The rapidity with which they will become common practice depends on the willingness of school systems and teacher education programs to intensify their experimentation and research, upon increased support for public education, and upon the creative use of the products of technology which appear in the offing.

Faced with many implications for change we should never lose sight that proposals need to be evaluated in terms of helping teachers to contribute to the development of the minds and hearts of boys and girls. Our children of tomorrow may quite literally have more worlds to conquer than have the children of 1960.

P.S. Certain problems will undoubtedly prove too complex for solution, even by automation, such as: dogs following boys to school, missing handkerchiefs and the one lost overshoe.

Kimball Wiles

Education of Adolescents: 1985

What values, skills, understandings will be fostered?

ALTHOUGH it *is* possible that schools in 1985 will be used as instruments of thought control and social classification, the writer, nevertheless, is optimistic enough to believe there will continue to be a social commitment to freedom, creativity and equality of opportunity. With this basic assumption, an attempt is made in the following statement to project the changes that technological advances and social problems will produce.

Purposes and Program—1985

Planners of the education for adolescents hope that each pupil will: (a) develop a set of values that will guide his behavior; (b) acquire the skills necessary to participate effectively in the culture; (c) gain understanding of the social, economic, political and scientific heritage; and (d) become able to make a specialized contribution to the society.

The program of the school is designed to promote these goals and is divided into four phases: (a) analysis of experiences and values; (b) acquisition of fundamental skills; (c) exploration of the cultural heritage; and (d) specialization and creativity.

Analysis of Experiences and Values

In the school each pupil spends six hours a week in an Analysis Group. With ten other pupils of his own age and a skilled teacher-counselor he discusses any problem of ethics, social concern, out-of-school experience, or implication of knowledge encountered in another class he or any student brings to the group. No curriculum is established in advance. The exploration of questions, ideas or values advanced by group members constitutes the primary type of experience.

The purpose of the Analysis Group is to help each pupil discover meaning, to develop increased commitment to a set of values, to provide opportunity to examine the conflicts among the many sets of values and viewpoints held by members of the society.

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The membership of an Analysis Group is carefully selected to provide persons of relatively equal intellectual ability but varied social and economic values. The group remains as a unit throughout its high school program. Changes are made only when deep emotional conflict develops between students or between a student and the teacher-counselor.

The teachers of Analysis Groups are emotionally mature people. They were selected early in their teacher education program because they displayed a high degree of empathy and were warm, outgoing personalities that other people liked. They were given special training in counseling, communication and value analysis. Each has been taught to see his role as helping others feel more secure, clarify their values, and communicate more effectively with their colleagues. If a teacher of an Analysis Group attempts to sell his viewpoint, he is considered unsuccessful and is replaced.

Each Analysis Group teacher meets three groups, or 33 students, during the week. His time beyond the 18 hours in the discussion groups is for individual counseling with the 33 pupils and their parents.

The Analysis Group is considered the basic element of the educational program. In the sixties it was recognized that unless citizens had values they accepted, understood and could apply, the social structure would begin to disintegrate unless authoritarian controls were applied. To counter the danger of collapse of a democratic way of life, the school was assigned the task of making as sure that each child develop a set of values as that he could read. The Analysis Group evolved as the best means of performing the values development function.

Acquisition of Fundamental Skills

Citizens in 1985 must have fundamental skills far superior to those necessary in the late fifties to be considered literate.

In the home and in the elementary school, children learn to read, spell and compute at their own rate of learning by the use of teaching machines. In the school for adolescents, mathematics, foreign languages and many scientific processes and formulas are taught by machines supervised by librarians and a staff of technicians.

It has been proven that the machines can teach basic skills as effectively and efficiently as a human. The work of Skinner and of persons working with foreign language laboratories in the late fifties paved the way for this development. All the activities needed for teaching all fundamental skills have been programed.

Each student planning a high school program is told the skills he must master. He works through the needed program as rapidly as he can. When he wants to work on a skill, he goes to the librarian, schedules a machine and a program and goes to work.

Certain skills are needed by all citizens, and each adolescent's program includes the requirement that these skills be acquired. Other skills are considered vocational in nature and are added to a student's program if he indicates he has college entrance or a specific vocation as a goal.

Some students complete their basic skills work early in their high school program. Others work on them until they leave the high school.

Two librarians, one to issue programs and the other to help on request, and a staff of mechanical technicians super-

vise the work of 200 students. Disorder is at a minimum because each person works on his own level and on his purposes. Moreover, each student works in his own soundproofed cubicle.

The teaching machines laboratories for the various subject matter areas, mathematics, languages, grammar, are an integral part of the Materials Center of the school.

Exploration of the Cultural Heritage

The explosion of available knowledge in the first three quarters of the twentieth century confronts educators with the need for selecting, synthesizing, interpreting and seeking better methods of transmitting it. The things that an effective citizen needs to know in 1985 are a multiple of the knowledge necessary in 1960. Textbooks with less than master teachers are not enough, and ways of bringing each student into a working relationship with the best teachers available have been sought. Basic knowledge from the essential fields is prepared in the most easily understood media and presented as dramatically and forcefully as possible. This knowledge from the humanities, the social sciences, and the physical and biological sciences is considered the Cultural Heritage.

Roughly a third of the program of each high school student is designed to help him acquire the basic knowledge of his culture. By exposure to the experiences, ideas, and discoveries of the past, it is hoped that the individual will become literate enough about the basic ideas of his culture to participate in discussions of them or to understand reference to them. It is further hoped that the experience in the Cultural Heritage portion of the program will develop a desire to further enhance the values on which the society is based.

Classes in the Cultural Heritage program are large. Sometimes as many as 500 or 1000 are in a single section.

Teaching is by television, films or a highly skilled lecturer. No provision is made for discussion because ideas that produce a response can be discussed in the Analysis Groups.

Only one teacher and an assistant are needed in each subject matter field in each school. The teacher lectures or presents the material by an appropriate medium. The assistant prepares quizzes and examinations and records the marks made on the machine scored tests.

The high pupil-teacher ratio in the Cultural Heritage area, 1 teacher for each 500 to 1500 students, makes possible the low ratio, 1 to 33, for Analysis Groups and highly individual instruction for the exceptional student.

Teachers for the Cultural Heritage program are selected early in their teacher education program. They speak well, like to be before an audience, have a sense for the dramatic and are attractive persons. In addition to intensive work in their field, they are given work in speech, dramatics, logic, and mass media.

Specialization and Creativity

The Analysis Groups, the Cultural Heritage Courses, and the Fundamental Skills work constitute the program required of all. But, in addition, each student is encouraged to develop a specialization. It is not required, but the opportunity is presented.

Shops, studios and working laboratories are available for specialized activities. All students who wish are encouraged to engage in some creative

activities since the Cultural Heritage phase of the program is essentially a passive reception.

Writing laboratories are staffed to help students who want to develop creative writing ability. School newspapers, magazines and telecasts are written in the laboratories.

Other students select work experience in various industries and businesses in the community. These students have decided they will not seek higher education and are using their specialized program to insure a smooth transition to regular employment.

Special opportunities are available for the persons who qualify in terms of ability and intensity of purpose.

Seminars in the various content fields, and some of an interdisciplinary nature, are available for those who can qualify. Students must have displayed unusual ability and show evidence of a desire for individual investigation in a field before they are premitted to enroll.

Seminars are limited to 15 students. They meet for two two-hour periods per week and the remainder of the time the students conduct independent research in the library or laboratories.

Small laboratories are kept open for full time use by the individual reseachers from the seminars. In fact, students who are not expected to become scientists or technicians in an area do not use laboratory facilities. Laboratory experience was abandoned as a general education procedure in the mid-sixties.

In the specialized fields the pupil-teacher ratio is low, 1 to 40 or 50 pupils. Teachers give individualized supervision and plan with the Analysis Group teachers the experiences individuals should have.

No longer do the colleges blame the secondary schools for inadequate preparation. Graduation days have been eliminated. Students continue to work in the secondary school until they pass their college entrance examinations or move to a job. Most students enter the secondary school at 13, but some leave at 15 and others at 20. A student's decision to leave the program is conditioned by his completion of the Cultural Heritage experiences, his acquisition of fundamental skills, and his individual purposes.

The School Plant

The school plant has many different sized rooms. Analysis groups, specialized education classrooms, studios and laboratories are small. Cultural Heritage courses are held in large halls equipped for lectures and mass media programs. Libraries and studios and shops are large. Areas where individuals work with teaching machines to perfect basic skills are divided into small work cubicles. Buildings with uniform size classrooms are obsolete.

Basis of Support

The program described above is paid for from federal funds. It was recognized in the late sixties that, with a population as mobile as ours, neither local communities nor the national government could afford to allow the great differences in educational opportunity to continue. No community was immune to poor education in another and the national government was thus neglecting a large percentage of its human resources.

Evolution of the Program

The program was not achieved without some difficult struggles. Many voices

(Continued on page 489)

George L. Miller

Teaching in the School of the Future

The teacher's behavior will be far more responsive and more effective.

IT IS perhaps inevitable that from an intensive and thoughtful investigation of "what is" will come a prediction of "what will be," and ultimately a conviction about "what ought to be."

The following convictions about teaching in the schools of the future grew out of an attempt to differentiate reliably the relevant components of the teaching act as it is practiced in the public schools and an attempt to assess the quality of teaching in elementary schools.[1]

Convictions about teaching are based upon values held and assumptions about the achievement of these values, which in this case have to do with life in a democracy, the kind of people a democracy requires, and the kinds of experiences necessary to nurture such a people. These values and assumptions will of course become evident in this presentation as teaching today is contrasted with the envisioned teaching in the future school.

In spite of the current worry about "poor discipline" in the schools, in spite of the recent charges about the excesses of so-called "progressive education" and its effect upon high school achievement and juvenile delinquency, in spite of some good reasons for believing in the importance of pupil planning, pupil purpose, and the crucial importance of helping each pupil in a search for his own meanings, in spite of the rather well accepted importance of pupil involvement in and general commitment to the learning tasks, teaching today seems to be highly directive. Perhaps the most striking characteristic of teaching today is the amount of teacher control present. Says Hughes in her report:

The most frequent and pervasive functions performed by the teachers were in the category of controlling. The teachers directed the children in what they should do and how they should do it; what they should answer and how they should answer. The

[1] Research Staff, George L. Miller, Director, Marie M. Hughes, Consultant, Gretta P. Romney, Edith B. Stimpson, Naoma T. Rowan, Loyd C. Whitlock, *Progress Report of the Merit Study of the Provo City Schools,* Provo, Utah: The Provo Board of Education, 1958.

Marie M. Hughes and Associates. *A Research Report; Development of a Means for the Assessment of the Quality of Teaching in Elementary Schools.* Salt Lake City: University of Utah Press, 1959.

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extent to which children can explore ideas, reach out in their experience and on their own, is very limited under controls of the kind presently exercised. In approximately two-thirds of the 129 records, the control functions performed by the teachers exceeded forty per cent of all teaching acts.[2]

More Responsive Teaching

The major prediction about teaching in the schools of the future is that it will be far less directive and controlling, but will be much more responsive. This means that teaching will pay very careful attention to the data coming from the child or group, both verbal and nonverbal. Out of this pupil behavior will come highly skilled professional teacher response. This responsive teacher behavior (reaction) will help the learner idiomatically to take *his* next step, both in building *his* intellect and in furthering *his* socialization. Under this kind of teaching in the future more "content" will be learned, the content will be learned with greater relatedness, pupils will be more creative, and they will be better behaved!

Some of the elements of responsive teaching will be contrasted with some of the elements of teaching which represent more imposition.

Intellectual Development. In the future when the teacher tells pupils to what they may legitimately give attention (*structuring*),[3] this *structuring* will be more often *open* than *closed.*

This means that the *structuring* will more often be done in such a way that the learner may select from a variety of possibilities or alternatives rather than merely responding more or less as an automaton. When it is important to do so, the teacher will use *structure orient* to "build a bridge" from that which has gone before (been done or known) to the new expected task or area of attention. Occasionally the *structure* will be *turned back* to the learner or group; that is, the responsibility for determining an area of attention or task may be shifted from the teacher to the learner or group.

In the all too typical teaching of today the teacher is in "complete control"—minutely directing the pupils in almost every move. This piecemeal direction is usually seen as unrelated by the pupil. In contrast to this, the more effective *structuring* invites the learner's involvement and judgment as well as his conformity and the exercise of his memory.

More professional teaching is illustrated in the first three of the following examples taken from records of teaching:

(Third Grade)

Teacher: What is the danger of too much water on soil that has no covering of grass or trees?

Child A: There would be floods because nothing can stop the water. The soil would all be washed away just leaving rocks.

Child B: Rocks are rolled away in floods, too.

Teacher: How can farmers prevent flooding of their land?

(Sixth Grade)

Teacher: Right now I'd like to explain what we will do this morning.

Mr. D—(student teacher) had planned to work with you on writing for a little bit this morning, but our news items took a bit longer than we expected them to, so we will do our writing another time, and get into social studies.

[2] Hughes, *op. cit.*, p. 289-90.

[3] From here on italicized words, such as *structure, clarify,* and the like which describe certain teaching behaviors are from the Provo Code for the Analysis of Teaching, or from the University of Utah Revision of the Provo Code for the Analysis of Teaching, found in the two works cited previously.

We have studied about different parts of the country and about some of the states that were in the different sections, but we haven't done much with the capitals of the states. Now we want to learn about the capital cities. So we will take a look at all of the states and all of the capitals. Will all of you look at this wall map of the United States . . .

(Junior High School)

Teacher: John has just summarized the first part of our discussion. Which aspect should we next consider?

In contrast to the preceding illustrations are the following:

(Third Grade)

Child A: Sometimes it is all colors when we have a pretty sunset.

Child B: Can we make it any color we want?

Teacher: I think it's a good idea to make your picture different and use your own ideas. There are some things we need to remember when we use water colors.

Child C: Not to mix the colors.

Teacher: Which do we want to show the most, the bird or the background?

(Sr. High School)

Teacher: Will each of you take about one-half sheet of paper. I think I am going to have to start marking all the people absent who don't have paper. You know you should have paper and pencil in class.

Now first thing I want you to do is conjugate the verb "dive." Conjugate it in the indicative mood, present tense, active voice, first and second and third person, singular and plural.

(Sixth Grade)

Teacher: Let us read the three facts we have learned today. (All read together.)

When, within an established *structure,* a topic or idea is being explored, the responsive teacher of the future will make far greater use of *clarifying* than is found in present teaching, or the teacher will act as a *resource* when the learner needs help. This means that the teacher will react to the learner's statement or question in a way that will build on, amplify or clarify in terms of the learner's point of view or frame of reference rather than taking things out of the learner's hands by *intervening* with new *structure* or *informing.*[4]

If each person achieves meaning by connecting the new (to him) to the old (to him), if meaning for a learner grows more effectively out of his own unique seeking, out of his own involvement, then responsive teaching which functions as *clarifying* will be far more efficient than the imposition upon the learner of the teacher's own thinking.

The first two of the following examples illustrate responsive teaching. The first is *clarifying;* the second illustrates the teacher acting as a *resource.* The third and fourth examples serve to illustrate the imposition of the teacher through the use of *intervening structure* and *informing.*

(Fourth Grade)

Teacher: A large part of our country is suffering from lack of water due to little rainfall. Why should it matter to us if it rains or not?

Child A: Crops won't grow.

Child B: We need food to eat.

Teacher: What has rain to do with food we eat?

(Sixth grade child to Librarian)

Child: What would insects be?

Teacher: Well, technically the field of biology has to do with all living things. We put insects in 595 which is part of zoology. That is probably a new word for you but it means the science of living animal life.

[4] Space does not permit a discussion of all the teaching behaviors which have been differentiated, but the words themselves roughly suggest their definitions.

(Fourth Grade)

Teacher: What is happening in the picture?

Child A: The man is sweeping snow.

Child B: He's making a pile of snow.

Child C: It has snowed deep.

Teacher: Where is he sweeping the snow?

(Sixth Grade)

Teacher: These are the foods C— is talking about (points to special foods on mobile).

(C— continues to read about carbohydrates.)

Teacher: Now you can see from your mobile that you don't need as many of these to balance your meals. You need more of the green and yellow fruits and vegetables —those containing vitamins A and C. Now it is said that these foods were burned to make heat for your body. What is required to make coal burn?

Responsive teaching of the future will help the learner to move forward into the new, more complex, and the more difficult, through teaching behavior which is primarily *encouraging* and *stimulating*, rather than so much through exhortation, admonition, bribery, threat or punishment. *Encouraging* behavior in this sense is that behavior which predicts success for the learner and/or assures him that the teacher is "standing by" to help. *Stimulating* behavior in this sense offers the learner alternatives in responding. The learner is left free to make an appropriate choice. Following are examples of *encouraging* and *stimulating*.

(Fifth Grade)

Child A: (Giggles) You'd look silly, Mrs. P—.

Teacher: Of course I would. And that's exactly why we want you to practice so you won't look silly, and your Mother and Dad can be proud of you.

Child A: Sure, that's right. And I can come in and watch the others practice, can't I?

Teacher: You bet you can. And you'll be surprised at how fast these extra practices go. I think you feel much better about the practices now don't you, A—?

(Junior High School)

Child: How shall I make my report? I would like it to be different.

Teacher: Well there are several possibilities. You know we have the new overhead projector. You could use it as Mr. J— did in our assembly, to give an illustrated lecture, or it could be used in some other ways.

You could work with a friend and write a dialogue. It could be a planned question and answer sort of thing. Also, you might get several friends to work with you and have a round table discussion.

Do you think you could use any of these ideas?

If in some real sense each must do his own learning and make his own commitment, then teaching behavior which is more *stimulating*, and teaching behavior which is more *encouraging* will be more efficient for learning than teaching which imposes through *admonishing*, *moralizing* and *reprimanding*.

In building intellectual power, feedback on one's performance is, of course, very important. Skillful teaching will make for greater use of *evaluating positively* or *negatively* with *discrimination* than is found to be present in today's typical teaching. Far too often the evaluation which is found today is so general that it is of little help to the learner in knowing how to correct his performance or what to continue doing in order to maintain it. However, if the evaluation is given with *discrimination*, the learner can know rather specifically what he needs to do to correct his performance or what he needs to continue in order to sustain his high level. The first illustration shows *evaluation* with

discrimination; the other illustration is typically general.

(Third Grade)

Child: Look at my writing. Is it better?

Teacher: I believe it is better. Look, the tall letters are all about the same height, the small letters are about the same height, but if you can also make each letter touch the line your writing will look even better.

(Third Grade)

Child: Here is my story, Teacher.

Teacher: Fine, but the writing is not good enough. Please do it more carefully next time.

Socialization or Enculturation

In any society the school is expected to help the young value the "right" things and behave in the "proper" ways. Especially in the United States this continues to be an important function of the school. Teaching in the future will more effectively facilitate socialization in several important ways.

Teachers' use of *public criteria* and *universal standard setting* when it is necessary for learners to conform will help the pupils to identify with the general culture rather than to be tied to or repelled by the particular person who happens to be his teacher. When the teacher uses *public criteria,* he is making explicit the reason for a certain request or direction, or for granting or withholding permission. This usually lifts the control beyond the personal desire or whim of the teacher and locates it within the framework of necessary social control. The same may be said of *standard set, universal* which when used serves to indicate the standard which the learner is expected to meet, but within the framework of general social expectations rather than the peculiar personal desires of a teacher.

The social controls need to be seen as man's attempt to make life more rational, that is, under his control. Man does not care to live as though he were in, and of, the jungle. Social controls make life more predictable. If you cross the street with the green light, chances are you will get to the other side. Of course, many school rules are peculiar to the situation, but those factors that make the rule a necessity for living together with decency and consideration are the source of the rule and not an authority figure *per se.*

The use of *Public Criteria* and *Universals* assists the child in attaining cognitive clarity about rules and other elements of social control. Under conditions of unclear or lack of cognition, he is less objective in regard to external reality and reacts more strongly with his feelings. As his resentments develop toward persons whom he views as the source of his discomfort, it becomes more difficult for him to respond appropriately to authority.[5]

Other teaching functions which facilitate socialization and which will be performed more by teachers of the future are *regulate routine* and *regulate neutral.* In these acts the teachers will be directing the activities of pupils as becomes necessary, but the direction will be more often either according to previously established and understood procedures which have become routinized, or the regulation of pupils will be determined by some "accidental" order or arrangement such as a "sign-up chart."

Ameliorating the Teacher's Status Power

It is safe to predict that the teacher will always be expected to exercise status power over the pupils. It is quite likely that the teacher will and should continue to stand as an authority for society, as a parent surrogate. The school must have

[5] Hughes, *op. cit.,* p. 141-42.

control, but if learning in a democracy is to proceed most efficiently then *this status power of the teacher must be operationally ameliorated for much of the school time.* This is likely a safe assertion because a democracy would seem to need as citizens those who have healthy self concepts, healthy feelings about others, personal involvements in and commitment to that which needs to be done, personal involvement with things and places, as well as individual competence and initiative. It would also seem safe to assume that these goals cannot be as fully met under rigid authoritarian direction as under conditions where the learner has many opportunities for making choices and for becoming aware of the results of the choices which he has made.

In addition to many of the teaching functions already mentioned, a reduction in the amount of *stereotyped support,* of *general support,* of *moralizing,* of *accusing,* of *admonishing,* and of *reprimanding,* with a corresponding rise in the use of clear *structure, standard set,* and evaluating *positively* or *negatively* with *discrimination,* would ameliorate the status power of the teacher. The teacher in the schools of the future will know this and will perform accordingly.

In summary, the schools of the future will still have teachers. Television will be used to give information under proper conditions, but teaching will be seen as interaction—the interaction between teachers and learners.[6] Teachers will be working (interacting) directly with pupils and the size of the groups will be determined by the needs for successful interaction. The teachers will be carefully enough trained that the countless educational decisions which are made as teachers interact with learners will be conscious professional decisions. Yes, teaching will be recognized as interaction, but the teacher's behavior in this interaction will be far more responsive and thus far more effective than is the typical teaching of today.

[6] Marie M. Hughes and Associates. "Teaching Is Interaction." *The Elementary School Journal.* Chicago, Illinois: The University of Chicago Press, May 1958. p. 457-64.

Adolescents: 1985

(Continued from page 483)

arose in the late fifties and early sixties clamoring for a copying of a European educational system. Some wanted to use tests and allocate the pupil to a specialized curriculum as early as ten years of age and give him the required courses the experts deemed suitable for him. They proposed restricting the curriculum of the secondary school to the intellectual pursuit of information in certain areas of knowledge. Values and social development were to be left to the home and church.

However, increasing juvenile delinquency, more homes with both parents working, increasing mental and emotional disturbance could not be ignored. The secondary school program had to be made broad enough to deal with values, human relations, fundamental skills in communication, the cultural heritage, as well as work in a student's special field.

Margaret Lindsey

Preparing Teachers for Tomorrow's School

What qualities and preparation are needed?

IT IS September 1985. In the Curriculum Laboratory of Thomas Elementary School, the professional staffs of the town's two elementary schools are meeting. Among the 56 people present, there are ten beginning teachers. While what is going on is important, there isn't time to stop and listen because we are interested in exploring what the new teachers are equipped to do and how they were prepared. In passing, however, it might be observed that the focus of this meeting is discussion of the beginning teachers' individual plans for continued development on the job.

These plans are the result of counseling with college advisors and those who guided their internships last year. They include analysis of the qualifying examination that was administered by the college. Taken by all teacher education students as they complete their first four years of preparation, these comprehensive examinations are designed to test background information in general education, the field of specialization, and professional education. All institutions preparing teachers are required by accreditation standards to administer such examinations, and minimum scores must be achieved before the institution recommends a candidate for the internship experience during the fifth year.

While differences among the new teachers in these staffs are wide and significant, they have a great deal in common. Without exception, they are qualified to begin to teach, for each has just completed a skillfully guided internship. If an individual had not proved himself during that period, he would now be engaged in extending his preservice preparation rather than beginning to teach. In common, the beginners have a level of mental health and emotional stability above that of the general population, for a specifically planned part of their preparation has been designed to develop understanding and acceptance of themselves and others.

Although their areas of special competence vary, each is already started on a path of true scholarship as a teacher. This may be stated with certainty be-

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cause their college programs made rigorous demands upon them as prospective teachers. There is a flame of productive imagination in every one of them, sparked by their deep conviction that they still have much to learn. Each is acutely aware that much of his time as a teacher will be devoted to exploring and discovering not only on his own, but with others, especially pupils. As a group, they possess in common that precious combination of security in knowing and the excitement and challenge of the unknown.

One cannot talk to these new teachers long without observing another characteristic they have in common—a strong sense of professionalism. In fully assuming responsibility for providing high quality education, the teaching profession in this year of 1985 makes demands on all its members. Through its carefully and cooperatively built machinery, the profession sets standards for continuous selection and retention of students preparing to teach, for teacher education programs, for licensure, and for retention of the license. The public has developed a high degree of confidence in the teaching profession and has shown a desire to have it assume more and more responsibility for protecting the public's right to good education. To be prepared to assume this responsibility these new teachers had, as part of their preservice education, planned opportunities to develop the attitudes, skills, and knowledge essential to proper functioning as worthy members of the teaching profession.

Accreditation

Differences among these new teachers are as telling as the qualities they have in common. Twenty-five years ago most of them would have been in an age range of 20 to 23. Not so today, for the youngest of these beginners is 22 and the oldest is 43. Conditions causing this age range are interesting. For one thing, secondary and higher education are now pursued by many over a longer period of time because it has become common for individuals to combine work with education, selecting amounts of each in terms of individual need and readiness. Also, some women postpone special preparation for teaching until their own children are in school and, as mature people, they are free to prepare for and engage in a career. In such cases, postponing preparation does not lessen the amount or lower the standards; rather programs are individually planned to take advantage of experience and are modified in terms of particular needs. Factors such as these create a situation in which students enter and leave teacher education programs at varying ages.

Every one of these teachers is a graduate of a teacher education program that has met standards for professional accreditation. Truth is, no other programs are available to those who want to become teachers. As indicated earlier, standards for accreditation are set up and enforced cooperatively by all segments of the profession of education. These standards require minimum uniformity and maximum individuality in college programs of teacher education. Consequently, while all these teachers have had some similar experiences, each has had a unique program carefully planned with him. Even the three beginning teachers in this group who are graduates of the same institution have had quite different patterns of preparation.

For example, because Robert Nagle was quite gifted academically, he "tested out" of five courses through equiva-

lency examinations and proceeded into more advanced seminars. On the other hand, Truman Stevens very early demonstrated outstanding insights into how young children learn and unusual ability to guide them in their learning. Thus, while some of his classmates were spending more time in schools, Truman was devoting maximum time and energy to filling gaps in his knowledge as these were revealed in diagnostic tests For some time it seemed as though Mary Pierce was not going to respond to the special psychological counseling she was having, so her admission to the teacher education program was delayed until her advisors were certain that she had overcome what was diagnosed as hostility toward members of her own sex.

Specialization

Back in 1960 laymen and educators alike were strongly advocating more intensive subject matter specialization than was true in most programs at that time. In retrospect, it is clear that criticisms of inadequate preparation in teaching fields and various proposals for increassing subject matter demands on teachers made during the 1950's and 1960's had a generally positive effect upon teacher education programs. Direct results of persistent pleas for better subject matter preparation are illustrated in the backgrounds of the beginning teachers joining the staffs of these two elementary schools.

First of all, each of them has a field of specialization to which he devoted a large portion of time in his preparatory program. For example, one of them concentrated in the physical sciences, building his own knowledge background in this area and giving special attention to the role of physical sciences in the education of the young. Another specialized by extending his course work and related experiences in the major areas of general education. A third one of these beginning teachers comes to the job with specialized background in psychology and educational psychology. Every beginning teacher now has a subject matter specialization, for this is one of the requirements set up by the profession and enforced through the accreditation process.

Other effects of the emphasis on subject matter preparation so characteristic of 20 years ago are, from present perspectives, perhaps more important than program revisions requiring content specialization for all teachers. Significant modifications in concepts of the kind of subject matter specialization best suited to teachers have resulted. For example, intensive acquisition of knowledge in a narrow subject is no longer considered adequate preparation in a teaching field. Emphasis is now placed on selecting carefully from the mass of accumulated knowledge in a field those things that should be learned and on becoming reasonably well acquainted with related bodies of knowledge.

The most fundamental shift in study of subject matter, however, is away from the single purpose of acquiring the information already organized by scholars in a given field to primary concern with understanding and acquiring skill in using methods of inquiry unique to a field. Modifications such as these result in classroom teachers today who not only know the content of their teaching fields but also are eager to continue to learn and have increasing control over methods of acquiring and organizing new knowledge.

That these modifications have oc-

curred is due to the willingness on the part of scholars in subject matter to give direct attention to the needs of prospective teachers and to alter their views of their responsibilities in the total education of teachers. Because members of learned societies joined forces with professional educators and because faculty members in liberal arts joined with those in professional education on college campuses to work cooperatively, programs of teacher education have been greatly improved.

It has taken the beginning teachers attending this staff meeting today five years of systematic study to complete their preparation. This, too, is partially attributable to the same emphasis on subject matter, although other factors have also prompted the now minimum requirement of five years for preservice preparation. Sound general education for all teachers was for a time threatened by the strong insistence on subject matter specialization. But the crucial import of broad liberalizing education was recognized and it soon became apparent that minimum preparation for teaching could not be done in the traditional four years.

In-Service Education

At the same time that increasing demands were being made on subject matter specialization of classroom teachers, new proposals regarding the professional education component of the program were getting much attention. What had been a growing restlessness about the quality of courses in education had, by 1960, crystallized into severe and specific criticism. Literature of the fifties is replete with propositions calling for the elimination of preservice study of theory and practice in education with the claim that these could best be acquired on the job. Whether such proposals precipitated the barrage of criticism, or vice versa, is difficult to assess. Serious students of teacher education, along with other educators and some thoughtful laymen, attacked what was described as unnecessary duplication, the "tricks of the trade" approach, and abstractness in professional courses.

The combination of criticism and proposals resulted in tremendous upgrading of professional education at both the preservice and in-service levels. Vigorous examination of professional education courses and an unprecedented amount of experimentation with new patterns in the preparation of teachers were well under way by 1965. The high scholarship level of education courses, the diversity in arrangements for and sequence of experiences in professional education, and the rigorous research and evaluation characteristic of the present are in no small degree the result of earlier criticisms of this component of teacher education programs.

Despite strong urging by influential persons in the fifties and sixties, the proposal that systematic study of theory and practice be removed from the preservice program and placed in in-service teacher education was never fully accepted or implemented. Several circumstances account for this. First, the science of teaching was growing rapidly and it was recognized by many that the quality of teaching could be enhanced through careful and specific preservice preparation in this science. Second, while study and experimentation demonstrated that a few highly selected persons could actually teach effectively without professional preparation, it was clear that the demand for teachers was far beyond what could be supplied through employment of these selected, gifted individuals

only. Most teachers, it was agreed, would profit greatly from specific professional experiences prior to their assuming responsibility in the classrooms of the nation. Third, the organized teaching profession was moving in bold leaps toward disciplining its members, and part of this movement was insistence that the total professional competency of its new members be demonstrated before they were permitted to impose their skill, or lack of it, on children and youth.

New Aids to Teaching

Furthermore, in 1960 educators could have had only a faint foreshadowing of the role that was to be played by technological invention in education. Although educational television, mechanically controlled laboratories for independent learning by students, and an array of teaching machines were available for observation and study, very little real experimentation and research on the implications of such technological instruments for teaching and learning had been conducted. As results accumulated from studies of utilization of mechanical aids in teaching, exaggerated claims of their potential diminished. Thoughtful, forward looking educators began a creative search for ways in which such innovations might best contribute to organized education programs. This search continues today.

It is now generally agreed, however, that to make wise decisions on the use of available mechanical aids in teaching calls for deep understanding of learners and learning, skill in preparing and utilizing aids of all kinds as appropriate for individual pupils, and sound theoretical bases for determining purposes and making choices as to how purposes may best be accomplished. Today's teachers are equipped through their preservice programs to make wise choices in helping individual children profit most in a rich learning environment. Too, they are ready to assume a range of different roles in teaching, sometimes working as team members with their colleagues, at other times skillfully tutoring individuals, and much of the time guiding the work of small groups.

Increase in number and kind of mechanical aids available and the variety of new roles teachers are called upon to assume are not the only factors requiring more intensive professional preparation. Teachers must have a high level of preparation when pupils have unprecedented opportunities to learn in home and community settings. Never before was it more important for teachers to understand each pupil and to be grounded in learning theory, especially that which deals with motivation for learning.

The know-how to help pupils with the systematizing of information is especially important. Furthermore, teachers must be unusually knowledgeable in a society where the general public is well educated.

While it is true that great diversity in patterns of preservice teacher education programs is characteristic today, still preparation of the new teachers beginning their work in this staff meeting is representative of common practice in 1985. They have already devoted the equivalent of five years to their preparation. Like all new teachers, each of them must demonstrate his proficiency by a year of success as a responsible teacher and be recommended by the local association's Professional Competency Board before the basic license to teach can be obtained.

(Continued on page 502)

Harold E. Wigren

Media for Tomorrow's Schools

Today's new medium must become tomorrow's creator of excitement in what is to be learned.

IT HAS been widely predicted that a "major technological breakthrough is imminent in education on a scale comparable with that of recent years in medicine, agriculture and industry." The validity of this prediction may be open to question, but one thing seems certain. During the next 25 years education will feel the impact of technological developments with nothing short of explosive force.

Some educators will shrug their shoulders and say blandly: "This, too, will pass. These things are of sound and fury, signifying nothing." Other educators, more alert to the possibilities inherent in scientific change, will keep abreast of new developments and thoughtfully appraise and assess each new power tool in order to explore fully its potential contributions to education. Some educational leaders will go even further. They will assume the initiative in supervising the introduction of these new tools into education in ways consistent with the best that is known about learning and the ways in which learning takes place. These are the same leaders who will also take the initiative in pointing out to industry the kinds of tools most needed by our profession rather than be contented to accept and adapt those tools which industry has already invented!

Much creative leadership will be required during this next quarter century, if education is to make the best uses of technology to accomplish its goals. If educators assume this leadership role, what is likely to be the blueprint for media in tomorrow's schools? Our purposes should determine the kinds of tools we will need, rather than the other way around. We need, therefore, to look first at what kind of education we want most to have in 1985. Then we can chart a realistic program to reach this goal. As we deal with major problems such as staggering enrollments, shortage of teaching personnel and rising costs, we

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must not lose sight of our long-range objectives, but continue to build constructively toward them. As is true in all other aspects of our life, our reach must exceed our grasp!

Education: 1985

What kind of education do we most want for boys and girls in tomorrow's schools?

In addition to mastery of basic skills and subject matter, we will want to make certain that our schools provide for other equally basic objectives.

Opportunities must be provided for learners—

. . . to develop their individual capabilities to the maximum

. . . to become independent in their learning—to learn on their own

. . . to gain information about their world, its scientific and social phenomena, and to learn to think critically about this information in applying it to their own life situations

. . . to develop intellectual curiosity and wonderment, a spirit of scientific investigation, and an ability to do research

. . . to become efficient in basic skills of communications and be able to use effectively materials, resources and media of all types as learning tools

. . . to understand the impact of mass media upon their lives and to distinguish fact from opinion in the analysis of propaganda

. . . to gain an appreciation of their cultural heritage, including the fine arts

. . . to understand themselves and others and to have respect for the need, integrity and potentialities of all members of the group

. . . to build inner convictions and values with which to meet life's problems and become increasingly mature in their own behavior.

In order to realize the above objectives, it is clear that the schools of tomorrow must give much more attention to two avenues of learning to which we now only give lip service in today's schools:

1. *Schools must provide increased opportunitites for learners to work in group situations.* Some instructional materials require sharing whereas others do not. Some can build individual skill but others are needed as a stimulus to share and deepen human experience. Where sharing is required, small groups are needed to encourage full participation. The learner in tomorrow's schools will need many opportunities to work in group situations of various sizes and composition.

We must acknowledge that much of what students learn in school they learn from one another. They require support and reinforcement that results from contacts and experiences with others. This calls for many peer group situations for the learner.

No *one* way of working will reach all of these objectives; rather several methods will be imperative. Learners will be in large groups for some experiences, in small groups for others, and there will be groups within groups at times.

2. *Schools must provide increased opportunities for learners to become independent in their learning and to "learn on their own."* In a recent publication entitled, *Education Looks Ahead,*[1] William S. Gray underlines this need: "The goal is increased capacity on the part of children and youth to engage independently at a reflective, creative level in the pursuit of knowledge and in the solution of difficult problems. Achieve-

[1] William S. Gray. *Education Looks Ahead.* New York: Scott, Foresman & Co., 1960. p. 58.

ment of this goal in harmony with each child's potential will bring many distinct advantages: the greater stimulus to further effort that results from independent discovery and achievement; the broader possibilities for students to promote self-development both within and outside prescribed courses; and the sounder preparation of children and youth for engaging in continuous learning as a way of life."

It is conceivable that with the use of new technological aids opportunities may be provided for each learner to proceed as fast as he can in accordance with his own competencies. This will make individualized *use* of materials and media essential in another quarter century.

In order to facilitate these two avenues of learning, we will need to try, particularly in our secondary schools, many possible organizational patterns which require more self-selection by the student and more guidance by the staff. In the National Education Association's newest television publication, *Opportunities for Learning: Guidelines for Television,* Harold Drummond points out one way in which this might be accomplished:

> For example, the following activities in United States history might be scheduled simultaneously and might be repeated at different hours: (a) a televised lecture; (b) a televised dramatic show; (c) a personal lecture-discussion; (d) a panel-type presentation; (e) a study-individual-help period; and (f) an individual contract plan. All these activities might focus attention on the same aspect of United States history at the same time. The student would be required to participate. Guidance and counsel from an interested teacher would aid him in defining goals for himself and choosing appropriate means for achieving his goals. Conceivably, some students might work alone in the library for several days at a time, followed by seminar discussions with staff members. Others might spend most of their class time in discussion groups, doing reading and television-viewing outside school hours. Still others might view television fairly regularly at school. Each student would be helped to find himself and what is appropriate for him, with the school aiding and abetting the process by providing guidance and ample choices.

At first glance, it would seem unrealistic to suggest that the school of tomorrow give more attention to individuals and groups at a time when schools will be facing ever increasing enrollments coupled with a corresponding shortage of teaching personnel. One would more likely conclude that in view of these conditions the school of tomorrow will of necessity be forced into *mass instruction* in order to survive, despite the dangers of conformity and rigidity of instruction which mass teaching would foster.

But herein exists a paradox. As our schools more and more avail themselves of technological developments, they can more and more find themselves freed from the lockstep and conformity which mass teaching breeds. As more tools become available and as existing technological systems are modified and reshaped, these same tools that were seen only as "mass" media are suddenly transformed into media for individual and small group use. There is always a tendency to allow the original use of a tool to set the pattern for its future use, instead of encouraging the development of new uses in response to curriculum needs.

This is not to discard the frequent need to use the television medium for providing mass learning experiences. In fact, the school of tomorrow will find

ways of using resources of all types for *both* individual and mass use. Flexibility becomes the key to the problem—flexibility in programming for learning, flexibility in administrative organization for various sizes and types of group activities, flexibility in building space, and flexibility in the "hardware"—the tools for learning. The schools of tomorrow will be using Stratovision and programs from the Learning Resources Institute as *learning resources for individual learners* rather than as *teacher substitutes* for whole classes. In so doing, they will be providing a depth type of experience over and above anything the classroom teacher can offer. We then will be using television, teaching machines, video tape recorders, instantaneous photography, individual viewing and listening equipment as resources for learning which tend to free both teacher and learner for unlimited learning horizons.

In many ways the school of 1985 will be much unlike its counterpart of 1960. It will undoubtedly reflect many significant changes in curriculum, organization and administration, in equipment, materials, and in school building construction and design. But in at least one respect the school of 1985 will be *identical* with that of 1960. It will still affirm that the two most important ingredients in the learning situation are the learner and the teacher!

Automation is no doubt imminent in many aspects of the work of the school, including some elements in the instructional program itself. When automation comes, however, it will not make obsolete the teacher-learner transaction which will remain a warm, human relationship. Neither will it invalidate all the research which has been done through the years as to the nature of learning and the ways in which learning best occurs. Automation will, however, add more knowledge to what we already know about learners and the learning process and will undoubtedly open up new horizons heretofore not contemplated. And so will it be when technology goes to school, as go it must.

Media in Tomorrow's Schools: One Blueprint

In forecasting what the schools of tomorrow will be like, media-wise, there are likely to be as many "versions" as there are crystal ball gazers! Thus, in order to stay on relatively safe ground and maintain a somewhat realistic and practical approach to the problem, as well as make allowances for the usual lag on the part of education in adapting new technological developments, I have chosen to confine "my version" to those developments which are already technically feasible and attainable at this moment but which are not likely to work their way into general use for another quarter century. In so doing, I have attempted to keep in mind what has been said in this article previously relative to the kinds of education we want most to have.

It is fairly evident that media in tomorrow's schools will need to be used in a flexible manner. I, therefore, foresee still another dimension of the total picture which will have, in my opinion, even greater impact and potential. This is closed-circuit two-way audio-video systems, which will bring a type of flexibility both in audio-visual and television use never before dreamed possible. The beginnings of such a system are already in operation in the Galveston, Texas, Public Schools [2] with its operation

[2] Galveston, Texas. See *Audio-Visual Instruction,* November 1959, p. 264-66.

of Phonoscope, still in the embryo-experimental stage. It is heartening to note here that this is one instance where education has not stood idly by and "waited to see what would happen." The Galveston schools have taken the initiative in exploring, both for education and for the industrial world, the potentialities of such a system.

I foresee schools of tomorrow being grouped administratively into large districts or regions and interconnected with one another by means of coaxial cable. This interconnection would make possible vast improvements in communication among classrooms and among schools. Within a given area schools would be connected with one another in much the same manner as classrooms in a given school are now connected by means of a central sound (two-way audio) system. In addition, the interconnection system would make possible two other features: (a) one-way video and two-way audio; and (b) two-way video and two-way audio. Thus, it would be possible to transmit a picture from one point to many other points and at the same time achieve instant audio feedback between these several points.

If a two-way audio-video instrument were used, it would then be possible for both sender and receiver to see and talk to each other, thus achieving the simultaneous transmission of picture and sound in *both* directions! Unlike conventional one-way closed-circuit systems with one originating point, wherein the larger the system grows the more rigid it becomes, the two-way audio-video system, with *many* originating points, actually becomes more flexible as the system grows larger!

Each classroom could then become both a receiving and a transmitting point, as desired. To accomplish this, each classroom would necessarily have to be provided with a special wall outlet which would enable the teacher to connect a two-way audio-video instrument. In turn, all outlets would need to be connected with a central switchboard in the school system located at a Communications Center for the district. This switchboard would in turn make connections between various designated outlets so that two or more classrooms, or schools, could be in direct contact with one another at any particular time, on a selective or mass basis.

In small school districts, one Communications Center might well serve the entire system. But, in large school districts, regional Communications Centers would probably become necessary. These regional centers would in turn be interconnected and probably become part of a larger network within the community which, in time, would even be connected with other communities.

Specifically, the Communications Center in school systems of tomorrow will undoubtedly become part of the Audio-Visual Center (or Instructional Resource Center) for the school district. Such a center would include, in addition to all the present resources and facilities of the Audio-Visual Center, certain other essential features:

. . . a switchboard which would serve as an interconnecting point among all the originating outlets

. . . a battery of projection and/or video tape recording equipment

. . . access to a community resources center

. . . a library of films or video taped materials

. . . a central studio for production of programs, or demonstrations, which normally could not be accomplished in a regular classroom.

The Center would serve as the focal point for the transmission of all communications media within the school system when all classrooms are tied into the Center's switchboard. When a classroom teacher needs a given film, recording, slide set, or transparency (or even a field trip!), he has one of two alternatives. He can either supply the material himself and use it on his own classroom projector or recorder; or he can order it from the Center by means of a push-button or dialing system attached to his TV receiver. In turn, the Center would put the film, or resource, on the television chain for use by that one class just at the moment it is most needed. Because eventually it is likely that the whole community might be similarly wired, there will be many opportunities in which field trips could be taken by television.

Tomorrow's classroom will include many other features which should be mentioned in passing, some of which coordinate with the system described above and some of which have no connection whatsoever but are still feasible and likely:

1. Each classroom will most likely be equipped with an electroluminescence screen mounted on the front wall of the classroom so that both projected and televised pictures can be enlarged for large audience viewing. These screens would consist of electroluminescence materials one-fourth to two inches thick and would be approximately 3′ x 5′ to 5′ x 7′ in size.

2. For small group and individual viewing, each classroom will probably be equipped with several small booths, or alcoves, wherein students can view motion pictures and see televised programs to meet individual needs. These booths will be equipped with headphones, much as is now done with language laboratory equipment, with the possibility of several students' viewing and listening to the same program or resource, or for individual viewing.

3. Each classroom will be equipped with monitors for receiving both audio and video signals, and in addition, would have a special outlet into which a two-way audio-video instrument could be connected whenever resources in one classroom are to be shared with other classrooms, or schools. There would be occasions when a given classroom would serve as an originating point. These monitors would also be able to receive broadcast signals, as well as closed circuit, thus enabling schools to pick up programs from both educational and commercial stations.

4. Every classroom in tomorrow's schools will be equipped with maximum light and temperature control facilities, including air-conditioning as standard equipment. It will also be acoustically designed for adequate sound reproduction. In secondary schools, there will likely be a minimum of outside window fenestrations. We have already heard much of the windowless schools in the Southwest part of our nation and still other innovations will likely be forthcoming. While some of these ideas may seem fantastic they all have elements of value within an over-all concept which sooner or later might be explored to advantage.

5. Flexible space arrangements will be essential in tomorrow's school. Classroom walls, for example, might be sound-proof accordion type which could be opened up at will to provide for large groups, or closed to provide for small.

6. An ample supply of automated teaching devices for use in individual classroom booths is certain to be provided for individual and small group learning. A student needing drill-type techniques might have access to teaching machines available to use in conjunction with recorded lectures on television or film, or as supplement to his regular classroom work.

7. Data processing equipment will no doubt be installed in administration offices

to handle student records, census information, and for a myriad of other uses.

8. By 1985 the cost of video tape recorders may have dropped to a fraction of their present cost, to a point at which they are relatively only a little more costly than our present magnetic tape recorders. If this occurs, it is not beyond the realm of possibility that each classroom might have access to one video recorder placed in resources centers in various locations in the building.

9. In 1985, there must be an adequate supply of projectors (film, slide, filmstrip, transparency, micro) as well as recorders, available for every classroom. Whether they will be available within the classroom itself or at the central source will depend largely on the method of transmission.

10. Finally, it goes without saying that tomorrow's schools will not neglect books! Books will still be basic learning tools for self-improvement and growth. It will be just as necessary to provide an adequate supply of books for each school library as it is in 1960. In fact, the need will be greater in an individualized program for learning and research. We must continue to grow in all areas of the instructional materials and resources program if we are to provide a wide variety of learning resources for all students.

Programming

There can be little doubt that the new technology offers a tremendous challenge for education. We should not regard it as an "intrusion" or fear its development as eclipsing all that we hold dear in our educational value system. It can liberate as well as limit. The two paramount questions seem to be these:

1. Who will control the programming?

2. Shall our tools determine our purposes, or will our objectives determine the tools we use?

Once our objectives are clear, they will serve as compass points in determining the direction in which we move. Provision must always be made for the teacher, as guide and counselor, to help learners select those experiences which would have meaning to them in view of their own needs and purposes. In such a situation, the classroom teacher controls the programming, and learners will not be given the same diet, but rather will be encouraged to select from an increasing number of learning opportunities provided on film, tape, television, and in the community.

What are the uses I would like to see the school of tomorrow make of media? I would hope that the school of tomorrow would use each tool of instruction to do the things which that tool can do best. Each tool should be assessed in relation to all other tools in its ability to accomplish specific teaching objectives. For some tasks the film will do the best job; for other tasks, television; for still others, radio, individualized teaching machines, the overhead projector, a field trip, or a book will better serve. In some subjects, the book might be the basic tool; in others, the basic tool might be the tape recorder or a television series. We are already finding, for example, that the tape recorder is rapidly becoming a basic tool in foreign language instruction.

The classroom teacher and the learner would have at their disposal a wide variety of teaching-learning tools, and perhaps a wide variety of packaged programs, from which to choose. In some cases, there will be undoubtedly a trend toward "absorption"—that is, the tendency for one medium, such as television, to absorb several others. Particularly will this be true in packaged resources for learning. When the smoke has cleared, however, I think there will be more rea-

soned approach to the problem. All the media would form a symphony of tools wherein each can make an unlimited contribution to learning, rather than being forced into a prescribed predetermined "plate lunch" pattern of use.

Television, itself, will I hope, be used with more flexibility so that the medium can become more than a talking textbook and instead serve a variety of roles, such as stimulator of learning, opener of doors, arouser of curiosity, promoter of critical thinking, and creator of wonderment and excitement in what is to be learned. This is a virgin territory for program development which needs serious attention as we become more and more mature in our uses of the television medium.

Who knows *for sure* that any of these things will come to pass, but it's interesting to dream!

Preparing Teachers

(Continued from page 494)

Among the outstanding features of the five-year integrated programs from which these teachers have graduated are these:

. . . individual planning with each prospective teacher, beginning with careful selection at the point of admission to the teacher education program, including cooperative analyses all along the way, and the development of an individual plan for continued professional and personal growth as each student leaves the college and undertakes a teaching assignment in the field

. . . rigorous demands on scholarship in all phases of the program

. . . opportunity for equivalency examinations so that students may use their time wisely in advancing from where they are rather than unnecessarily duplicating earlier experiences

. . . group and/or individual therapy as needed to ensure mental and emotional health

. . . cultivation of open-mindedness, curiosity, imagination, and habits of inquiry, coupled with development of skills and informational background that enhance productive thinking through inquiry.

. . . specialization for every teacher, with variety in kind based upon student need, special interests, and professional goal

. . . special preparation in the meaning and responsibilities of membership in the teaching profession

. . . intensive work in educational theory, accompanied by clinical experience from beginning to end, including an internship, skillfully guided by cooperative efforts of school and college personnel

. . . qualifying examinations to assure students' background information in general education, subject matter specialization, and educational theory

. . . qualifying proficiency demonstration through the internship and the first year of responsible teaching

. . . college teaching in every area of the program that is exemplary and carried on by specifically prepared teachers, each of whom recognizes the contribution of his work with students to the total preparation of teachers

. . . constant planning and evaluation of the total program by all-college faculty-student teams, by groups with representation from all segments of the profession, and by special consultants at the request of the college or of the profession.

Curtis Paul Ramsey

Testing in Tomorrow's School

Self appraisal increasingly will be the goal of testing.

A SEPARATE curriculum coordinator or supervisor, as this staff person is known today, may be obsolete in the school of 1985. In that new age, the curricular demands and competencies required of the general curriculum person will be so great that many of these specialists prepared before 1960 will be unable to function with a high degree of success.

Many of the technological advances of the present day, which are related to curriculum, are outside the realm of responsibility of some of our better supervisors. New systems of instruction and evaluation are springing into being without the knowledge, guidance or control of present curricular authorities.

The introduction of automated tutoring devices, experimentation with closed systems of instruction, and the development of newer communication media for instructional purposes, mean that curricular and evaluative functions will be merged in the school of 1985. Our present chaotic separation of testing functions and curricular functions has contributed to this very imminent obsolescence of the curriculum *and* the testing specialist.

Supervision in a New Role

For too long, supervisors and curriculum authorities have demonstrated an "ostrich orientation" regarding continuous evaluation and measurement of instructional process and curriculum effectiveness. We have indicated a naive assumption that because we "believe" certain points of view regarding content, scope, sequence, process and objectives, that such decisions are not only above evaluation, but also that testing of their implications is not even necessary. Maintaining such attitudes will mark the present curriculum authority for early extinction. There will be no place for such attitudes in the school of 1985.

(Continued on page 506)

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From the craftsmen who have produced more school sound systems than any other manufacturer, comes another superb teaching tool–the Medallion–the language laboratory as new as tomorrow in beauty, in construction and, above all, in educational effectiveness. ¶ Completely and uncompromisingly designed "from the ground up" to meet every one of your language teaching needs, the Medallion has so many exclusive improvements that it truly can be called "the ultimate in language laboratories." ¶ Take, for example, the baffling problems of *where to begin* and *how far to go* when planning a laboratory for your school system. These are solved by the Medallion's extreme adaptability to differing kinds and levels of teaching. The Medallion offers unmatched flexibility and expandability to grow along with your curriculum. ¶ Thus, it allows you to begin with a simple audio-passive system serving perhaps only a few students. As the curriculum grows and faculty skills develop, this method can be augmented by an audio-active system. Finally, for optimum learning, audio-active-compare functions can be added. ¶ As classes increase in size, more student accommodations can be installed when and as required, without rendering obsolete any of the previous investment. These progressive modifications are simple, quick, and economical, thanks to the most advanced type "plug-in" electronic components and "snap-together" mechanical construction. ¶ From brilliantly engineered high-fidelity circuits (with fully transistorized amplifiers and power supplies) to the beautiful and durable accommodations for individual students, the DuKane Medallion language laboratory is beyond question the finest and most thoroughly researched equipment available to schools today. Every school should have our descriptive literature as a basis of comparison.

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(Continued from page 503)

A research orientation, and devotion to critical curricular evaluation, will be the distinguishing marks of the curriculum specialist in the future. The critical expansion of new knowledge will require that contemporary learning patterns and procedures be subjected to constant scrutiny and evaluation. The implications for required new skills are tremendous. Increasingly we recognize that our in-service development of present day supervisors, and the preservice preparation of new supervisors must change radically *if professional educators are to remain responsible* for the development and supervision of the instructional programs and processes for children.

Inadequate Tests

By default almost, test construction and design responsibilities have gravitated from the hands of those most intimately connected with classrooms and children. As a result, most of our standardized tests of today possess severe deficiencies which may make them completely inappropriate for use in the schools of 1985.

The author is presently involved in a major research project related to uses of standardized tests by school systems in four different states. In this research we have made some interesting discoveries.

Several of the major achievement tests, widely used by school systems for status studies of achievement, have been found to be greatly limited in their utility for system-wide analyses of curricular achievement. Some of the most recently standardized tests have been constructed according to outmoded organizational patterns, and cannot efficiently be used with our modern electronic data processing equipment. One of the best known achievement test series, apparently, has not even been constructed to measure identifiable learning factors. The publishers agree, privately, that *neither they nor the authors know* what individual test items are supposed to measure; and, furthermore, they have no reasonable explanation for the inclusion of specific test items. In other words, there is no clear-cut rationale underlying the design and development of the test. Survey tests of achievement, in particular, vary greatly in their length, design, and inclusion of sub-tests.

Test designers and publishers are aware of many of these deficiencies. Apparently the general lay public, and, unfortunately, too many educators accept uncritically all tests and measures of intelligence, and expect application of their findings without regard to adequate safeguards and cautions for individual interpretation.

Inappropriate Use of Tests

Test designers and publishers are perhaps more cautious in recommending uses of tests than are teachers and parents. Relationship studies are rampant between "I.Q. measures" and indices of achievement. As yet, however, we do not have an adequate definition of intelligence, much less an adequate measure of it. Research into creativity and dimensions of intellect constantly indicates to us new levels, factors, and forces to be considered in any description of human personality, ability and achievement. We continue to segregate children for instruction based upon indices only slightly removed from witchcraft symbolism.

In 1985 our schools will possess measures of intellect and mental capacity which will allow us to judge individual efficiency of teaching and learning, for

individuals, rather than on a comparative or competitive basis.

At present many intellectual outrages are perpetrated in the name of "merit rating," "master teacher bonus," or differential salary schedules. Attempts to evaluate the relative efficiency of teaching by a simple comparison of class medians or means on a national standardized achievement test represent not only the sheerest folly, but also a sort of intellectual dishonesty which seeks to prove a point by the selective display of partial evidence. Our school of the future will have access to materials of evaluation which will make available, for supervisory and curricular adjustment purposes, information which will indicate the relative efficiency of learning by different methods, by different media and resources, and by different teaching-learning situations.

Reliable test publishers have insisted that their test norms are not standards of achievement to which all schools should necessarily aim their instructional programs. Administrators and teachers less sophisticated in the ways of appraisal and statistics, however, have continued to use national norms—in achievement tests particularly—as a criterion of excellence. To surpass national norms in the "Spring administration" of a test is cause for glee in the individual classroom, pride in the principal's newsletter, and the source of a public relations "release" from the superintendent's office to the local press. Everyone is hoodwinked by the same myth—that norms are a standard for measuring achievement, when no other factors are considered.

The school of the future will have access to measures of achievement which will be valid for measuring progress within a system from year to year at the same levels, and for measuring progress of the same population of students from point to point as they progress through their school careers. Such instruments will be so constructed that they can be applied to an analysis of the curriculum of a specific school system, at specified grade levels, and even allow for such variables as socioeconomic differences among school populations within the same system.

Many students have been tested almost to the point of exhaustion, and yet still have not had access to adequate information about their test results. Many decisions on scholastic placement, study programs, even career preparation, have been made by school officials with reference to test scores, but without reference to the student's own aspirations, latent abilities, and personal goals. In the school of the future, the person with the *most complete information* about any one student will be that student. Increasingly, self-appraisal and evaluation will be considered the central goal of testing and evaluation; and curricular adjustments, themselves, will be made by many students with the assistance of new tests and counseling procedures.

Dangers of Tests

As testing programs assume a larger role in the curricular structure, and as decisions of increasing importance are made with reference to class and school achievement test results, many teachers and administrators find themselves giving way to the pressures induced by indiscriminate testing. When the unsophisticated person places so much emphasis on a single score, the groundwork is laid for an erosion of ethics related to test administration, scoring, reporting, and to the teaching experience which

precedes a testing session. Because of the undue stress some administrators have placed on meeting or exceeding test norms, some teachers have begun to teach material specifically related to test items they anticipate will be given to their students. Tampering with the scales has never corrected a weight problem, and manipulating an academic environment before a testing session does not provide reliable information about general scholastic achievement.

Should these pressures continue to increase, due to national testing programs for scholarships and satisfactory college placement, then by default almost, a *sub rosa* national curriculum will have been established by test publishers. Abnormal emphases on a single test score can produce such unwanted and unsought results within individual classrooms of our nation's schools.

In the school of the future, these minor enticements to unethical test manipulation, and to the abnormal emphasis on scores, will abate and testing will be recognized and used for what it is—a *tool* of evaluation in curriculum, and neither a determiner of nor a deterrent to good instruction.

A final danger noted in present-day testing procedure is the tendency of mass test results to reduce the individual student to an ignominious set of numerals which can be "treated" in statistical fashion. In large school systems, this tendency is an ever-present threat in almost all curricular procedures and activities. As a companion service to closed systems of instruction and automated tutoring devices, testing and electronic analysis and computation could administer the final *coup de grace* to individual integrity of students.

An inglorious conclusion to our noble experiment in providing the best of instruction for each *individual* child is not necessarily the result of increasing the complexity of testing, scoring and reporting. As in all inventions of man, the device itself is neutral; man's goals and applications determine whether any particular procedure or instrument is dangerous or detrimental to the human personality.

The touts of technology do not seem to realize that *uncritical* mass acceptance of new devices, media, and instructional procedures can result in just such a negation of individual worth. On the other hand, the high priests of group process and individual transactionalism seem to try to avoid all understanding of the technological age, at the risk of a sort of educational embalming. For supervisors to say, "A plague on both your houses," may indicate a critical shortage in moral fortitude on their part, and almost guarantees that curriculum workers and supervisors will have responsibility in an increasingly smaller domain.

The separate positions of curriculum supervisor, testing director, and audio-visual coordinator in 1985 will be as obsolete as the village blacksmith is in 1960. Curriculum in the school of the future will depend upon all three areas to such a great extent that the person who supervises the curriculum must be regarded as a specialist in all three components. "The state of the art" in tutoring devices, mass media, and testing procedures, to say nothing of the greatly expanded wealth in curriculum content and process, is such that the supervisor responsible *must be conversant with and competent in* all these areas.

There is great promise for testing in this new role of the curriculum supervisor. Evaluation, of a dedicated competent sort, is the Achilles heel in most

(Continued on page 526)

Earl W. Harmer

A New Program in Junior High School

A school staff attempts to develop an integrated program.

THESE days it is either refreshing or distressing—depending upon one's convictions—to note that there continues to be significant curriculum research and experimentation toward integration and continuity in secondary schools.

For example, secondary schools of 100-250 pupils and with staffs that desire to make greater provision for "knowledge of more facts and entertaining of more ideas, and to a better, more orderly arrangement of them"[1] might consider the current reorganized curriculum of the Stewart Junior High School at the University of Utah.

In the summer of 1954 Stewart School staff hypothesized that a further integration of the curriculum would offer a better organization for learning. The school's curriculum at that time consisted of an English-social studies core and conventional subject offerings in mathematics, science, industrial arts, music, art, physical education, home economics, and an activities or "club" program. The problem for the staff was the perennial one: how to make the curriculum more integrated, productive, sensible, and worthwhile.

Stewart staff recognized, of course, that a continual integration of the curriculum has characterized the secondary program for the past 50 years. Separate offerings in literature, spelling, reading, grammar, and penmanship have lost their identity and become a program of language arts, or English. Smatterings of science appear as biology, general science or practical science. Common learnings courses, the life adjustment program, and the core curriculum are working examples of the integration concept.

Research in adolescent growth and development preconceived an integrated curriculum as being of superior worth for the learner.[2] Research designed to evaluate integrated curricula supported the hypothesis.[3] The NEA, among other organizations, reported a clear trend to-

[1] John Dewey. *Experience and Education.* New York: The Macmillan Company, 1938.

[2] *Adolescence.* Forty-Third Yearbook of the National Society for the Study of Education. Part I. Chicago: Department of Education, University of Chicago, 1944.

[3] J. Paul Leonard and Alvin C. Eurich, editors. *An Evaluation of Modern Education.* New York: D. Appleton-Century Company, Inc., 1942.

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ward a more integrated curriculum in the nation's secondary schools.[4]

Proposed Program

Through a series of Stewart staff curriculum workshops, a more integrated curriculum was suggested which moved beyond the "core plus conventional subjects" organization. Specifically it was suggested for grades seven, eight, and nine that:

1. The core program remain as it had been organized; i.e., the various grade levels would remain intact. There would be a large block of time available for work. The core would consist of a fusion of English and social studies. The general method would continue to be unit teaching.

2. All of the special interest areas of the curriculum—music, art, home economics, industrial arts, clubs—would consist of six and twelve week predetermined units of work. Students would have a variety of choices and be able to cross over into other grades; *e.g.,* a unit of work in art, "Landscapes," might draw students from the seventh, eighth, and ninth grades.

3. The science and mathematics programs would consist of predetermined units and students would not observe grade lines. Algebra was to remain a full year sequence, primarily for ninth graders; and some science units, *e.g.,* "Reproduction" would be restricted to ninth graders.

4. Units in physical education and health would be required of all students. Once again students could cross grade lines, but units of work would not be as definitely predetermined.

Stewart School had utilized the "core" design for several years prior to the curriculum reorganization under discussion. The values of the core (development of common understandings, skills, values for democratic citizenship; provision for individual differences, guidance opportunities, etc.) were long recognized by Stewart School personnel. There was no reason or desire to change this part of the program. Improvement possibilities seemed to lie with the special-interest areas.

This reorganized junior high school program, essentially a modification of the project curriculum, began in the autumn of 1954 and is now completing its fifth year of operation. There have been certain changes of the original program, but the curriculum organization at Stewart School as of this year is essentially the same. Units have been extended from six to nine and twelve weeks (six weeks we found to be an insufficient length of time to do quality work) and the core time for the seventh graders was extended.

While the purpose of this article is to present, as simply and concisely as possible, the reorganized design of the junior high school curriculum, it should be emphasized that persons concerned with the school considered the curriculum to be more than a device or an organization.[5] They (essentially the school staff) indicated clearly their stand on such fundamental questions as the social context in which education is to take place, the meaning of democracy for the school, and the nature of learners

[4] Grace Wright. *The Core Program Grows; An Inquiry Into Practice.* U. S. Office of Education, Bulletin No. 6, 1957. Washington, D. C.: Superintendent of Documents, U. S. Government Printing Office, 1957.

[5] Earl W. Harmer, Jr. "A Study of the Curriculum and the Curriculum Development Program of the Stewart Junior High School at the University of Utah." Unpublished doctoral dissertation, 1958.

and the learning process. Stewart staff members believed that they knew what they were trying to do, how they were trying to do it, and that the results would be worthwhile.

An Evaluation

The administration of the apparently complex program was easier than the Stewart staff had anticipated. Careful preplanning by teachers was necessary, of course, and the preliminary preschool scheduling conferences took time. Once the pattern became established, however, the problems of scheduling became fairly routine. The "unit-plan with no grade lines" organization allowed the teacher-parent-pupil (and often the principal) combination to plan a program geared to the needs, problems and interests of each student. Furthermore it was possible to make adjustments in the program for individual students as the year progressed.

One might reasonably assume that a consequence of such a diversified program would be confusion. Stewart staff members were worried, too; however, the functioning program proved quite the opposite. The staff, 16 in number, worked carefully, thoroughly and compatibly. The total student body numbered approximately 160 each year for three grades—this is, incidentally, the average size of the secondary school in the United States. In short each teacher knew the program of most of the students and, of course, the core teachers were primarily responsible for pupils in their particular grade. The on-going school program was no more confusing or disruptive than the conventional program had been.

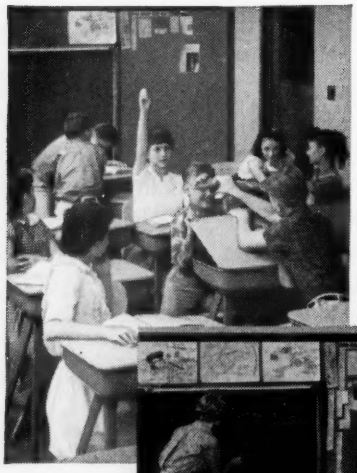
The values of the program had been hypothesized to be:

1. To offer a wide variety of study areas; to increase the exploratory opportunities for students
2. To improve learnings in fundamental knowledge and skills
3. To offer greater opportunities for problem solving; to develop critical thinking
4. To make better provision for individual differences
5. To improve the guidance services of the school
6. To offer increased opportunities for personal and social development through broad contact with all junior high school pupils and teachers
7. To offer greater opportunity for democratic living
8. To promote greater sensitivity and understanding of social conditions and problems
9. To promote greater understanding of personal competencies, characteristics and potential.

It remained, of course, for the staff—and particularly the writer, who was for two years a member of the Stewart staff—to attempt to evaluate the curriculum. The comprehensive evaluation program cannot be detailed here, but extensive standardized and staff-built tests were administered; criteria were established for the program from which questionnaires were administered to pupils and parents; informal evaluation sessions were held by staff and parent groups.

The verdict of the evaluation over a three-year period was that the reorganized program was a better instructional program for Stewart School pupils than the former program had been. Pupils made outstanding gains in science and social studies learnings. The varied study areas and the elimination of grade lines offered opportunities for individualizing

(Continued on page 521)



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DESIGNED ESPECIALLY FOR UNASSISTED USE BY ELEMENTARY SCHOOL CHILDREN

The Importance of People

Column Editor: Fred T. Wilhelms

The Importance of ASCD

IN those pleasant years when I worked at NEA, there was one set of offices I always had a special feeling about visiting. If my work went flat or it was one of my juiceless days, I used to wander down to ASCD's cramped, back-stairs quarters, and after a while come away feeling better.

Why? That sort of thing is hard to define, of course. But, for one thing, there was the talk. To make a conversation come alive you didn't need to talk about federal aid, or the administration of anything, or even the politics of the house. You only needed to speculate on what happens when a teacher meets a kid. ASCD headquarters always cared about that.

And then there were the people. In most offices a few "professionals" bossed a group of "clericals." At ASCD everybody got into the act. The newest typist was responsible for something or other —and the responsibility was genuine— and she was proud of it, with a shine in her eye.

ASCD was only a youngster then, having a struggle of it, financially. Last year, when I went back, I rubbed my eyes at the fine desks, the spacious rooms, and all that. But that very day a pretty young staff member had just published her first poem—about a baby—and everybody was feeling good with and for her, and the atmosphere felt the same as always.

Two characteristics: caring tremendously about children and teachers and what happens when they get together; the ability to involve almost everybody; these, to me, make ASCD stand out above all other organizations. Of course, these two root down to something deeper—I don't exactly know what—a vision of what society could be, perhaps, so goading a vision that it never lets compromise be comfortable; a faith in the human person, so deep-rooted it cannot be shaken. Sometimes I feel that the "something deeper" lies very close to Albert Schweitzer's *reverence for life.*

Whatever it may be, it is not the fragile optimism of those who have never been tried, for ASCD's 15 years have had more than their share of stormy weather and rough going. After the Progressive Education Association, ASCD has always been out front, taking the battering. Specifically, there were the violent attacks on *Building America.* But, more generally, an era that could stand a McCarthy was bound to be painful for an organization so firmly in the liberal van that even its sister organizations sometimes half-resented its uncompromising idealism.

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In all those storms ASCD never ran for cover, or even took in sail. I do not claim that the record was one of exceptional bravery, any more than I think a mother must be brave to risk her life to save her child. The measure of the mother is not her courage, but the devotion which makes the courageous act the only one possible. ASCD was so devoted to what it was working at that it never really questioned going on about its business. And after it all, ASCD has come through the storms stronger than ever and more deeply idealistic, with the strength and the toughened faith of the seasoned veteran.

Now it appears that the weather has cleared a bit, and it may be about to be sunnier still. At least the extreme surges of fear and passion seem to be quieting down, and it is growing possible once again to hear the quiet voice of reason. In such a time what has an organization with ASCD's unique characteristics to offer?

One is tempted to prescribe. For instance: We have grown accustomed to being an embattled minority. Now the time may be at hand when, instead of using our energies to struggle against rising tides of negativism, we shall be able to give encouragement and direction to a gathering power of warm and positive motivations. Shall we be ready to play that role? Or shall we be like a man pushing on a stuck door, who falls on his face when it suddenly gives?

These past few years the American people have been fed a pretty heavy dosage of innuendo, of talk that sometimes came close to sounding as if only the intellectually brilliant are worth cultivating, and only a few old-line formal disciplines worth teaching. One of these fine days the people will shake all that off and reassert the historic American position. But some scars of uncertainty will remain. Lay persons will need reassurance from trusted experts who believe in all the children and who are not overawed by the symbols of academic respectability. When that day comes our greatest asset will be a cultivated ability to communicate to parents and citizens. So far, we have communicated mostly with ourselves. Should we try to reach out? We already have some of the most readable publications, and our concerns are such as appeal to parents and citizens. Should we try deliberately to write to them part of the time?

If we do reach out, should the reach include work on legislation? For instance, there's NDEA, wherein by federal fiat some parts of the curriculum got more important than others. Did we bring the kind of pressure to bear on that *curriculum* issue which our administrative-minded colleague organizations bring to

bear on a money bill? Should we have?

For instance, again: Our position and communications with the public would be much stronger if only we could be speaking more at one with the experts in various subject matter fields. Easier said than done, I know; maybe never wholly possible. The physicists, the economists, the mathematicians, and the scholarly representatives of all the disciplines may choose so much to promote their special interests and may persist so much in ignoring what is known about learning and teaching that we can never come to agreement with them. And yet, is it not anomalous that we of the major organization for the curriculum in general should be so little allied as we are to the specialists? Does it have to go on that we speak so much at variance with them? Have we tried hard enough to build a sound, long-term relationship? Although there are dangers, it is also true that wonderful things can happen when public-school generalists and university specialists from the several disciplines work together.

Another for instance: As part of its unsurpassed commitment to democracy, ASCD, in its very earliest years, made a great investment in the use of group process and the study of group dynamics. We made tremendous contributions for a few seasons; progress was rapid, and there were real discoveries. Then what became of the penetrating study of dynamics—the part that was aimed at real breakthroughs? Didn't the techniques become routine, if not a little boring? Can you think of a single significant improvement in the past five years—one that would lead to a fundamentally better product? Meanwhile those who see group process as a smooth, polite road to conformity gain ground. Those of us who are at least as committed to en-

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hancing every individual in the group as to increasing the effectiveness of the group greatly need a way of channeling our efforts. If ASCD does not provide it, it is hard to see who will.

But I did not set out to prescribe what ASCD should do as times change. That question needs long thought, and it's so challenging that the minute you consider it you'll find it hard—as I did—to resist tossing in a few personal suggestions. But my real purpose was to underline the extreme importance of what ASCD decides to do. I've wished to do that because I think it's easy to get used to what is almost a part of us and overlook its value.

It is hard to realize how different American education would be today if ASCD had not been there. When the battles were going at their worst, there stood our organization. General Jackson at Bull Run, standing there "like a stone wall," was not a firmer rallying point. It makes a difference when there is a place to stand.

There are a few hundred of us who rally to the strong point again and again. We do it when we read a magazine or a yearbook, work on a committee or a commission, go to a state or national convention. We always go back to our work a little bit stronger, a little less lonely and discouraged. And that's important, for we're a rare and peculiar breed, awfully important to America's schools.

We've been selected more by temperament and purpose than by the titles of our jobs. We aren't exactly the "practical" type, and yet we're characterized by long, tough service in the lines. We compromise, but we don't compromise away principle. We're idealistic, and yet no group has ever been more realistic about the difficulties ahead. It's not that we don't know it's a fight; it's that we don't quit fighting. On average we are short on authority, long on influence. Our ideas count more than our orders, and that tends to be good for us because we have to work with people instead of telling them what to do.

We've been people who intuitively move toward life rather than away from it. We have a tremendous commitment to democracy, and an even deeper feeling for the lone individual inside that democracy. We're deep-dyed professionals with a terrific urge to build a school system on what we know about children and societies and learning and teaching—not by the guidelines of what's safe or politic or fashionable. We're an odd crew—tough, tender, earthy, visionary, fond of each other, argumentative—and with it all everlastingly devoted to the job as it is given us to see the job. I think we are the cream of American education. And what we think today is more important for what happens in America's schools tomorrow than any other single fact. We had better be right.

And it is very likely that we will be right. Wrong in many a technical detail, of course; dangerously wrong, sometimes. But at bottom we are likely to be right. Because, maybe more than any other group, we refuse to look aside to the immediate and the expedient. We keep our eyes on the youngster and what he can grow to be if we are good enough at helping him. We keep our eyes on human beings and the society they can build as wisdom grows among us. In all our thinking and feeling we are guided by the most valuable of all habits: the habit of being enthusiastic about the importance of people.

—Fred T. Wilhelms, *professor of education, San Francisco State College, California.*

Curriculum News

Column Editor: Paul R. Klohr

Contributors: Robert S. Gilchrist, Howard E. Bergstrom, Frank H. Duval and Edgar H. Mueller

FIFTY professors in the field of curriculum, we reasoned, ought to know about the promising curriculum practices around the nation. So we wrote to the professors, asking them to name the schools they thought we should write to. The professors replied; we wrote to the schools; more than 60 schools replied; we summarized, and in this column we are synopsizing. The number of school systems in this study is not large enough for a thorough survey, but we believe we have found practices which illustrate some of the best and most interesting ideas and trends. It is our thought that the most promising trends of today will be significant factors in shaping the school of the future.

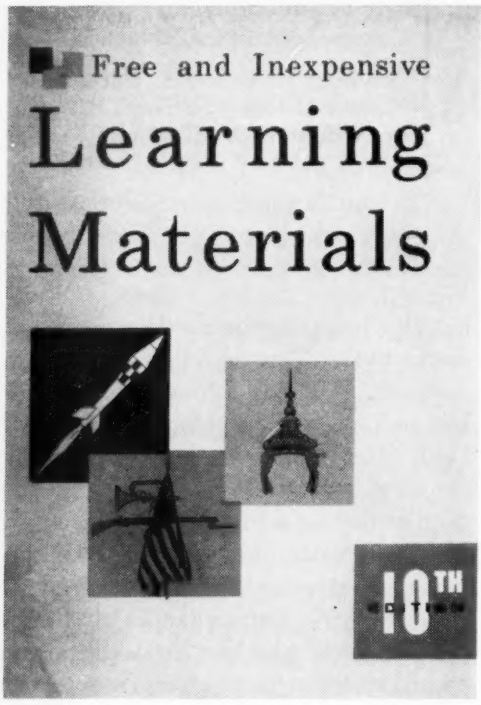
Primary Programs

Thirteen school systems wrote to us about their primary programs, in some instances called "nongraded" programs. The plans fall into three types according to treatment of the skill areas. Midwest City, Oklahoma, Cedar Falls, Iowa, and Sioux City, Iowa, are examples of programs where detailed systems of evaluating and recording have been worked out on a series of progressive achievement levels in the various skill areas. Thus, when each new year starts the teacher who receives the children can immediately see where individuals are working in each area of growth. This has also been done in the Warner School of Nashville, Tennessee.

Elmira Heights, New York, Hillsborough County, Florida, and University City, Missouri, are examples of primary programs where reading development is used as the chief focus for recording and grouping, with other skill areas handled in a more standard fashion.

A teacher's intimate and continuing knowledge of children, in addition to a record system which passes from teacher to teacher, is the basis of programs in which one teacher stays with a class of children for the three-year period. Pontiac, Michigan, and Park Forest, Illinois, are examples. The Scott Avenue School of Whittier, California, reported a variation in which some rooms have children of three "grades" in them. Each year the oldest third of the group moves out and a new third, three years younger, moves in to stay for three years.

Although the chief objective of the primary plan is providing for more individualized learning environments, an almost universal side effect is a stimulation of "acceleration-deceleration"—of having some children spend a year more or a year less in the primary block of years. If each child is working in materials suited to his capacity-level, it can be seen that "skipping and repeating" will be replaced by speeding up and slowing down—a much more adequate base for making adjustments. In most instances



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of acceleration-deceleration, it is recognized that academic talent is only one criterion for judging the desirability of increasing or decreasing the length of time a child will spend in school. Social, emotional, and physical maturity are usually listed as necessary accompanying criteria. It is generally agreed that the academically-precocious youngster who is just average in other ways should be provided for academically but not removed from his age-group.

Highline (Washington) Schools describe a primary program which makes it possible for teachers of first and second grades to provide certain types of experiences, especially in reading, which could not otherwise be attempted. Only half of each class comes to school at 9:00 in the morning, permitting the teacher to conduct small-group activities. These children are dismissed from school an hour early in the afternoon, leaving the other half of the pupils, who arrive at 10:00 a.m., for their hour of small-group work with the teacher at the close of the afternoon. This program may have important pilot implications for discovering more about the relationship between learning effectiveness and class size.

Grouping and Related Practices

A few school systems reported implementation of the nongraded idea in one skill area, while still maintaining most of the graded structure. One illustration is the Greenburgh School District #8 in Hartsdale, New York, where the program in handwriting instruction permits children to develop skills at an optimum rate for each, through a step-by-step sequential process. The Warburg Campus School at Hartsdale, New York, individualizes handwriting instruction through a similar program.

Grouping practices in reading, reported by several communities, were similar to the well-known "Joplin (Missouri) Plan." In this plan children leave their regular classrooms and are regrouped for reading instruction, according to the developmental level in reading rather than age or grade. Concord, Massachusetts, has developed a plan of this type in arithmetic and spelling, for grades three through six.

Englewood, Florida, has a "split-grade" elementary school, in that most rooms include children of two grades, as a deliberate practice, enabling the teachers to help selected children move through the program in a year less or a year more than the usual period of years. Although "graded," this plan has the flexibility of a nongraded school in that grades do not have strict time allotments for some pupils.

A number of enrichment programs in special subject areas were reported, sometimes implemented through an all-day grouping of gifted and superior pupils and sometimes through a nongraded structure or a part-time grouping. South Bay Union School District, California, reported its participation in a county-wide study in which a new arithmetic program has been developed for talented children. Richland, Washington, has foreign languages for fast learners at selected grade levels.

Ability grouping was reported by 20 school systems. Five of these grouped high-ability children in all-day programs, usually in grades 3-6 or 4-6. In East Meadow, New York, carefully selected children do the work of grades 4-6 in two years. In other systems reported, "acceleration" is made more possible but on an individual basis.

The Evanston, Illinois, Elementary School District #65 conducted a small but pertinent grouping experiment: one group was segregated full-time, another for part of the time, and similar high-achievers in heterogeneous groups were given individual enrichment opportunities. The conclusion on the basis of this trial was that there was no appreciable difference between the three approaches, in noticeable outcomes, and that *all* efforts to help gifted children tend to pay dividends.

A modified grouping plan might be called "planned heterogeneous," or "cluster" grouping. Saddle Rock School of Great Neck, New York, divides children in a grade into five achievement levels. Then children are assigned so no teacher has the full range to manage; also, no more than one "cluster" of either extreme is placed in a class, and the children in the highest and in the lowest classifications are not assigned to the same room.

For slow learners, East Orange, New Jersey, reports special classes for "non-performing" children in grades four through eight, who are two or more years below their age-norm in reading and who score between 80 and 90 on individual I.Q. tests. (There are other provisions for those below I.Q. of 80.) In Oak Park, Illinois, tutorial centers have been established for underachievers. Children receive special help during scheduled periods until they have made progress and achieve closer to their ability levels.

Team Teaching

Nine school districts reported that they have been experimenting with some practices related to the "team teaching" idea. In some instances these practices relate also to the development of non-gradedness, in one or more skill areas.

Norwalk, Connecticut, has a systematic program. Aided by a Ford Foundation grant, they are studying whether some outstanding teachers might not better serve, and be more likely to stay in classroom teaching, if they would head up teaching teams—giving guidance to less experienced staff members. Where there were formerly three teachers paid on the basis of the same salary schedule, there are now one master teacher or "team leader," one regular or "cooperating" teacher, and one noncertificated aide. The master teacher receives considerably more than was formerly paid. The regular teacher also receives somewhat more. The aide is paid a clerical salary. The experiment is intended to test whether pupils are getting as good an education or better than before, with the same expenditure.

The Franklin School of Lexington, Massachusetts, has a similar project. Three groups of teachers are organized, with members having the titles: Team Leaders, Senior Teachers, Teachers, and Clerical Aides. Also, children are redeployed during the day and classes cut across grade lines.

The Englewood School in Englewood, Florida, has a two-class team made up of teachers of one fifth and one sixth grade class, and a three-class team composed of one third, one fourth, and one fifth grade class. The teachers cooperate in planning, with any needed direction supplied by the principal. Two or three classrooms combine for a variety of activities: reading and arithmetic are taught with regroupings that do not follow grade placement; some music, art, physical education, films and programs are conducted in groups larger than one normal class. One advantage is that one of the two or three teachers in a team can be free to do preparatory work.

In Atlanta, Georgia, the Skyland School had appointed three teachers to coordinate the work of other teachers, each responsible for two or three grades. Extra salary is granted. In addition, a full-time librarian handles instructional materials and works with the three teacher-coordinators. Still other practices were reported, each with some unique variation.

New Curriculum Elements

Foreign languages, introduced at the elementary school level, were reported by several school districts. Economic education, as a fundamental part of the curriculum, has been developed in Elkhart, Indiana, where units and materials have been integrated with social studies, especially in the primary grades.

Highland Park, Illinois, has instituted a unique approach for elementary school foreign languages. One hundred and six staff members, including the superintendent, learn conversational Spanish together. The children, in turn, learn from their teachers in informal but planned ways. A number of school systems use radio or television series to give systematic lessons, followed up by informal reinforcement by the teachers.

In Clayton, Missouri, a specialist who gives some instruction to the children in French also gives in-service help to the teachers—who conduct most of the program. A number of school systems have a foreign language in classrooms wherever the teacher has a language skill, but with no uniform program.

Several communities reported that they are successfully using "helping teachers," or consultants, in the elementary schools. These are master classroom teachers who are released from regular assignments so they may be of general

service to teachers in procuring and organizing instructional materials, diagnosing and advising on learning and teaching problems, and generally helping administrators and teachers on curriculum development, child study, or in-service education.

Portland, Oregon, Cedar Rapids and Des Moines, Iowa, Great Neck, New York, and University City, Missouri, have master-teacher consultants giving a broad service to their schools, while other systems reported the use of consultants in more specialized ways. In University City the five Resource Teachers, together with elementary principals and others who give leadership in the subject areas, wrote a comprehensive resource guide for elementary teachers. The guide includes curriculum descriptions, an index of basic and supplementary materials, a community trip guide, and a collection of enrichment ideas contributed by teachers.

The Sand Hill School of Carrollton, Georgia, reports a cooperative effort in the Atlanta, Athens, and Carrollton areas. A publication entitled "Some Promising Practices in Improving School-Community Relations" suggests making wider use of school buildings, having parents evaluate school practices, and having parents appear as resource people in classes or serve as substitute teachers.

Grand Island, Nebraska, reports a program for public information which enables the community to evaluate its schools constantly. Daily radio broadcasts are made from tape recordings which have been made in classrooms; one page of the local newspaper is devoted to a weekly account of school news; a bulletin which periodically publicizes the best practices of the best teachers is available to the public as well as to the staff.

Many school systems make it possible for every parent to have periodic private conferences with the child's teacher at the elementary level. Two examples are the Upper Arlington Schools at Columbus, Ohio, and the Cedar Falls, Iowa, schools. These districts have placed the conference at the heart of the reporting process in the elementary schools. Cedar Falls has three parent-teacher conferences each year. In Upper Arlington a fall conference is followed by a "progress letter" in January, a "check-list" in April, a progress report *from* the parents, and additional conferences where needed.

—ROBERT S. GILCHRIST, *superintendent of schools, University City, Missouri, member, CAPCI Advisory Committee; and associates from University City Schools:* HOWARD E. BERGSTROM, *coordinator of instructional services;* FRANK H. DUVAL *and* EDGAR H. MUELLER, *elementary principals.*

Junior High School

(Continued from page 511)

instruction and for extending personal and social contacts. Parents, students and teachers overwhelmingly endorsed the program. Its continued existence is one testimony of its worth.

Incidentally school staffs with a view (necessarily a brave one these days) towards the improvement of their instructional programs need not look for new curriculum development principles or processes. Long-established steps might include: (a) Studying the literature, the students, the community; (b) Formulating a statement of purposes; (c) Determining and implementing the design of the curriculum; and (d) Developing a program of evaluation.

And now

in its February 1st issue

The American Library Association's

The Booklist

and Subscription Books Bulletin

at the conclusion

of its lead review says:

"The Book of Knowledge is recommended as a topically arranged supplementary reference encyclopedia for children of the elementary through junior high school age in the home and in school and public libraries and as a source of exploratory reading for the same age group."

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THE BOOK OF KNOWLEDGE®

The Children's Encyclopedia

A PUBLICATION OF THE GROLIER SOCIETY INC.©
INTERNATIONAL HEADQUARTERS, 575 LEXINGTON AVENUE, NEW YORK 22, N. Y.

Curriculum Research

Column Editor: Walter B. Waetjen
Contributors: Donald D. Durrell and Doris U. Spencer

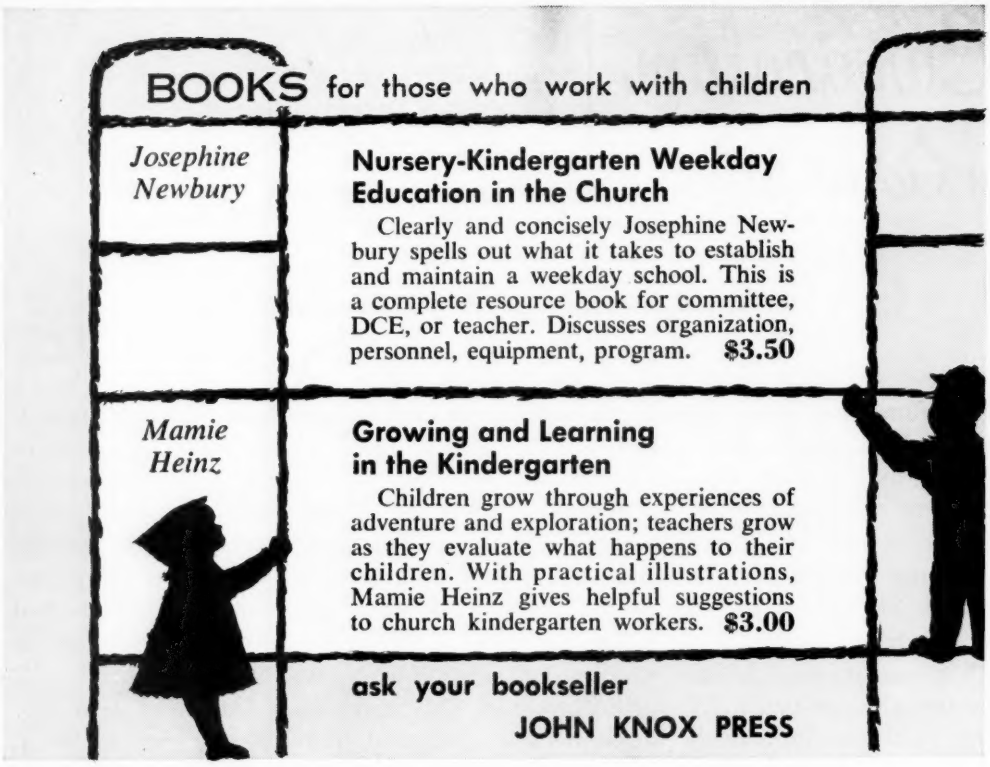
An Approach to Word Analysis

IF printed words in English followed a uniform phonetic system, children would have much less difficulty with reading and spelling. But children must learn to read and write conventional spellings, and this requires continued assistance throughout the intermediate grades. The "rules and exceptions" approach seems unfruitful in a language full of exceptions. Children who master the complexities of English spellings appear to do so "inductively" through extensive practice in reading and writing. It appears that other children might improve in word abilities if they were given extensive practice in word analysis in which context clues were provided and imagery attached to words immediately after analysis.

The recognition and spelling of many words cannot be determined simply by the application of rules. English sounds may be written in a number of ways, producing a "multi-phonics" language, with various combinations of letters having the same sound and like letter combinations being pronounced different ways. What is the rule for spelling "eece" when it is found in the following words: *peace, geese, grease, fleece, niece, police?* And what happens to the effect of the final silent *e* in *lose, done, love, some?* Why *pear, pair, pare; there, their,* and *they're; to, too,* and *two?* Which vowel sounds shall one use in *live, bow, lead, wind, read?* Which syllable does one accent in *permit, record, present, perfect,* and *rebel?* How does one remember that there is a *d* in *handsome* but not in *winsome? Colonial* makes sense, but how about *colonel?* The letter *g* has two different sounds in *gigantic,* as does the letter *c* in *circuit.* And what happens to the "ch" sound in *chemical, chorus,* and *character?*

The child who learns to read and spell must find his way through thousands of variations in the spelling of English. To a specific combination of letters, he must attach one or more specific mental images. The boy who writes to his parents that "I one furst pries in wrifullry," is equally accurate in marksmanship and phonics. Phonics has done all it can for him, but he has not attached the correct mental images to *one* and *won,* to *pries* and *prize,* nor do the images of having the top score relate to *first,* or using a rifle to *riflery.* These words correctly spelled may evoke the right images when he reads them, but the tie between word form and mental image is too weak for spelling. It is the establishment of these ties between images and word form that is emphasized in the inductive approach to word analysis.

Conventional approaches to word analysis emphasize structural analysis and rules. Commonly stressed are rules for


BOOKS for those who work with children
Josephine Newbury
Nursery-Kindergarten Weekday Education in the Church
Clearly and concisely Josephine Newbury spells out what it takes to establish and maintain a weekday school. This is a complete resource book for committee, DCE, or teacher. Discusses organization, personnel, equipment, program. $3.50
Mamie Heinz
Growing and Learning in the Kindergarten
Children grow through experiences of adventure and exploration; teachers grow as they evaluate what happens to their children. With practical illustrations, Mamie Heinz gives helpful suggestions to church kindergarten workers. $3.00
ask your bookseller
JOHN KNOX PRESS

vowel sounds, syllabication, accent, prefixes, suffixes, and diacritical marks. Two weaknesses often appear in such exercises: they fail to enrich meanings or attach images to word forms, and they require analytical operation *after* the child has read the word. Only if the child can read the words can he divide *oasis* and *piano* into syllables or indicate accents and vowel sounds in *abdomen* and *bungalow*. Such phonetic analysis does not aid in word pronunciation nor does it enrich meanings. What the child needs is practice in solving new words while keeping their meanings vivid.

In order to discover the values of specific practice in solving new words while keeping meaning high, 30 exercises in word analysis were prepared for fourth grade. Several requirements were followed in the design of these exercises: the words should be in the child's speaking vocabulary but not in his reading vocabulary; context clues should be provided to aid in word pronunciation; the mental images evoked by the words should be restored immediately after analysis; children should aid each other in analysis; the words should be written as well as read; there should be practice in word recognition after analysis; the exercises should be self-administering and self-correcting; motivation must be kept high, with interest constantly maintained; and the exercises should be inexpensive and easy to reproduce.

A series of trials finally led to the production of word classification cards to be used by pupil partners. A card contained 40 words, each of which could be placed under one of three headings. A typical card used these headings: "Has Fur—Has Feathers—Has Leaves." Among the words to be classified were

the following: *canary, pigeon, celery, beaver, maple, daisy, rooster, grapes, parrot, wildcat.* Each pupil ruled three columns on a sheet of paper and placed the headings at the top of each. Then the partners tackled each word, trying the sounds indicated by the letters with the assurance that they would know the word after analysis. Although *canary* might at first be pronounced *cannery,* and *pigeon, piggy-on,* further trial resulted in a triumphal recognition, with a rapid copying of the word under "Has Feathers."

After the completion of the lesson, children used the key on the reverse side of the card to correct their work. The words were pronounced and spelled orally to strengthen discrimination of word elements. Each child kept a record of the lessons completed and the partner with whom he worked. Since there was no developmental sequence to the cards, a single set served the entire class. The partners could select any card they had not used previously.

As with any teaching materials, effective use of the cards depends upon teacher interest and judgment in initiating and maintaining the program. Partners need to be congenial and of approximately equal ability; absentees require new pairings for the day; good handwriting must be maintained, as well as care in correcting the exercises; success must be praised and effort must be encouraged.

An experimental evaluation consisted of trying the exercises in ten fourth grade classrooms for a period of ten weeks, and comparing the results with those of ten control classrooms. The experimental and control groups were equated for intelligence and ability in word analysis, reading, and spelling. Teachers were paired for approximate equality in the teaching of reading and spelling as determined by accomplishment quotients of pupils under their direction the previous year.

Time for the lessons was found by using them in place of the regular spelling lesson three days a week. The regular spelling words were taught only two days a week. In the control group, spelling took five days a week; reading instruction in both groups was maintained as usual.

Ten measures of word analysis, reading, and spelling were used before and after the experiment. The experimental group made greater gains than did the control group on all ten measures; statistically significant gains were found in all five word analysis tests, and three of the four reading tests. Marked improvement in the ability to solve new words, measured by the Boston University Word Recognition Test, was indicated by initial scores of 20 for both groups as compared to final scores of 39 for the experimental and 25 for the control group. Similar gains were shown on the McKee Inventory of Phonetic Skill, as well as in visual perception of word patterns and the recognition of homophones. On the Gates Reading Survey Tests, the experimental group gained one year in reading as compared to six months for the control group. Significant gains were found in both vocabulary and speed of reading. In spelling, the experimental group gained six months on the Metropolitan Test, as compared to four months for the control group.

Intensive practice in solving new words through use of context clues appears to produce marked gains in word power. Although no rules were taught during the experiment, the gains in phonetic ability were very large. Particularly interesting was the gain in rec-

ognition of homophones which measures the ability to recognize different spellings of the same sound. Apparently successful practice in word analysis gives the child power in the "multi-phonics" of written English.

The success of the fourth grade word classification cards led to the production of similar cards for grades three and five. Both are being evaluated experimentally. The fifth grade exercises are being compared with similar exercises in which the same words are studied through structural phonics approaches which are common to basal reading systems. This will permit a more detailed comparison of growth through inductive phonics as compared to deductive or "structural" phonics. Techniques of word usage in spelling which stress mental imagery and enriched meanings are also being tried, in the expectation that both spelling and transfer of spelling to written composition will be improved. The improvement of children's abilities with words is still a rich field for educational pioneering.

—DONALD D. DURRELL, *professor of education, Boston University;* and DORIS U. SPENCER, *professor of education, Johnson Teachers College, Vermont.*

Testing

(Continued from page 508)

mass media innovations. There are many sacred cows pasturing in our *own* curriculum procedure and content preserves, too, whose carcasses are in need of some thorough test of viability. Many of our "best" procedures are based upon fragmentary philosophy and restricted research evidence. A deep critical self-evaluation in teaching is long overdue; the longer this examination is delayed, the more difficult will become needed modifications. Should we delay too long in this critical inspection, then the inspection and decisions of viability may well be made outside our profession, and to our detriment and that of children.

The child in the learning process, then, is and should be the focal point of all concern. Here, too, testing in the new school can play a vital and positive role. More complex information, electronic calculator procedures, and automated systems of instruction and evaluation need not submerge the learner's importance and reduce him to a series of rectangular holes in a calculator card. Properly utilized, all these procedures can be brought to bear for the enormously enriched benefit of the individual student—for his own enlightenment and self-appraisal, for guidance and counseling purposes in the instructional experience by his teacher, and for careful scholarly analysis and adaptation of the system-wide curriculum by school officials.

Many massive forces are at work in the world today, and a large number of these have extensive implications for the teaching-learning experience. Will the tidal wave of technology in testing and new communication-teaching media inundate the present teaching and supervisory personnel, or will the wave carry the teaching profession to new crests? The answer depends upon the stature and posture of teachers and supervisors today, and upon their willingness to learn and acquire new and expanded techniques.

Children have very practical and functional definitions. Such an approach might serve us well in our present context: To teach is to learn, to learn is to know, to know is to control. We say we have been teaching—let's hope we have been learning—in time.

Curriculum Bulletins

Column Editor: Arthur Hoppe

NOTE: The column editor was assisted this month by several persons at Indiana University. These colleagues appraised materials in their respective fields: John Eichorn in special education, Leo Fay in reading, Laura Hooper in childhood education, and Prevo Whitaker in science.

St. Paul Public Schools. *Their First Year in the St. Paul Public Schools.* Curriculum Bulletin No. 70. St. Paul: the Schools, 1959. 120 p. ($1.25)

This bulletin is a result of a series of in-service education meetings and workshops attended by kindergarten teachers in St. Paul. It represents an effort to make more widely available the outcomes of those meetings, and was designed to give practical assistance to both new and experienced teachers. The guide reflects what the kindergarten teachers of one community collectively consider important in the way of content and learning experiences for their pupils.

As is the case with so many curriculum materials, the greatest value accrues to the very group who participate in their construction. So it must be here too, but the guide has much suggestive value for kindergarten teachers in other communities. It presents the philosophy and pertinent policies of the schools, and follows this with a description of the youngsters and sources and procedures for fully understanding the pupils. The curriculum is considered through such facets as classroom atmosphere, sample daily schedule, activities such as arts, music and games, and the basic academic subjects. A distinct asset of the guide is the wealth of references and the lists of equipment, supplies and resources.

Columbia Public Schools, *Reading Instruction in Columbia Elementary Schools,* (K-6), Revised August, 1959. Columbia, Missouri: the Schools, 1959. 139 p. (No price indicated.)

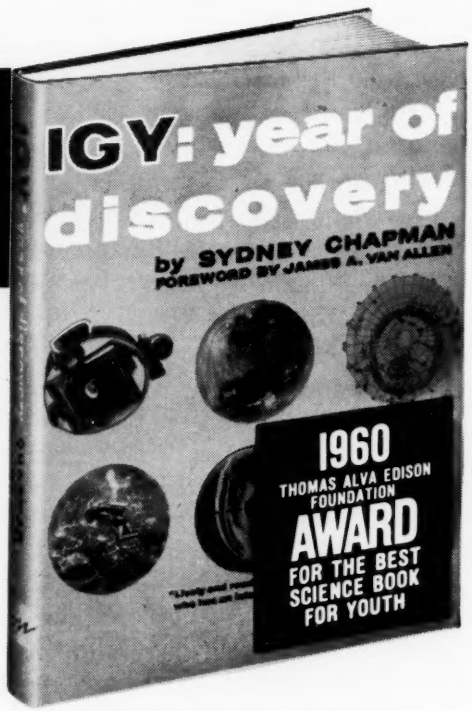
This is a very thorough presentation of how to use the Scott-Foresman readers effectively. It is a resource bulletin for teachers originally produced in 1952 and now revised by Adalene Drew Hoke, supervisor of language arts. The product is of very high quality.

A philosophy of reading instruction introduces the contents. A basal reading program is fully delineated. Then various types of reading instruction are described in detail; for example, reading for pleasure, for academic purposes, for the gifted, for the slow reader, and for the beginning pupil. Evaluative procedures feature a check list for directed reading. An important section deals with the interpretation of the reading program to parents. The bulletin contains an excellent bibliography of professional books as well as books for children.

Auburn Department of Education. *Handbook on Remedial Reading in*

WINNER OF THE
Thomas A. Edison Foundation Award

The year's best science book for youth



From satellite and rocket probes into outer space to the voyage of the "Nautilus" under the polar ice cap . . . here is the fascinating story of the International Geophysical Year —told in a lively, readable, extensively illustrated volume by the leader of the team of scientists who directed IGY. Sydney Chapman, one of the world's foremost physicists, describes how scientists from 67 nations delved into the mysteries of earth and sky, and what their discoveries mean for our future.

A FEW COMMENTS ABOUT THIS BOOK AND ITS DISTINGUISHED AUTHOR

"This book is notable for the insight, the breadth and the enthusiasm which can be conveyed only by the leader of a great enterprise . . . it will engage the attention of every person who has an interest in the natural phenomena of the world in which he lives." *James A. Van Allen.*

"The book is a popular account . . . and will be a welcome addition to public and high school collections." *Library Journal.*

"Sydney Chapman is sometimes described as the greatest geophysicist of our time . . ." *The New York Times.*

Winner of the 1960 Thomas Alva Edison Foundation Award, *IGY: Year of Discovery* will delight science-minded readers of every age and is a must for libraries and schools. Place your order today—through your supplier or direct from:

THE UNIVERSITY OF MICHIGAN PRESS, Ann Arbor, Mich.
(In Canada, order from Ambassador Books Limited, 370 Alliance Avenue, Toronto, Ontario)

the Intermediate Grades, Curriculum Study. Auburn, Maine: the Department, 1959, 45 p., (No price indicated.)

This handbook clearly distinguishes between the retarded reader and the slow learner, and underscores the major challenge of the former. The ideas are presented to serve "not only as corrective devices but also as preventive techniques." Careful identifying procedures include the case study technique, an elaborate battery of tests, subjective and informal reading inventories and phonics tests.

Causes of reading deficiencies are discussed briefly in the third section. This is followed by many provisions for remedial instruction including instruments for diagnosis, brief illustrations of the case study, the use of special equipment such as the tachistoscope and the reading accelerator, aids to developing breadth and precision in vocabulary, the Dolch Word Lists, and many suggestions for stimulating free reading. The bibliography contains a wide array of materials useful in a remedial reading program for intermediate grades. The content reflects the influence of the Boston University Reading Clinic.

Newark Public Schools. *Sound, A Resource Unit for Grade 8.* Newark, New Jersey: the Schools, Department of Libraries and Audio-Visual Education, 1959. 17 p. 25¢.

Resource units are not ordinarily produced by a single person, but this one was: by Eileen Linehan, librarian for the Newark elementary schools. Such units usually include specific problems and resources of the community where they are constructed; this one is not localized in that fashion, but could be adapted easily to just about any eighth grade group. It is comprehensive in scope, succinct in style, and exceedingly well done. No one is expected to use the whole of it, and no one is expected to use it without such additions and modifications as are required by the needs, abilities, problems and resources of the learning group involved.

This resource unit includes the essential sections useful to teachers and pupils. The problem is clearly stated. Objectives are listed in terms of understandings, attitudes, appreciations, and skills. The scope of the unit is approached in terms of strategic questions and answers, and 36 different learning activities are suggested. Evaluation is considered from the standpoint of the teacher and of the student. Many books are included in the final section on resources, along with films, filmstrips, and free and inexpensive materials. Resource units represent an important instructional aid which could enable teachers in any type of curriculum organization to do their work more effectively. Unquestionably, the greater value accrues to the people who build such units for their own use.

Minneapolis Public Schools. *Procedures for the Program of Fire Safety in the Minneapolis Public Schools,* Revised 1959. Minneapolis: the Schools, Department of Health, Physical Education, Recreation and Safety. 14 p. 35¢.

The Safety Committee of the school system and the City Fire Prevention Bureau collaborated in the production of the original fire safety manual. This was used for two years and then revised according to the suggestions of teachers, custodians and principals and approved again by the Fire Prevention Chief—to become the present manual. It outlines clearly the duties of school per-

sonnel in the program of fire safety, the procedures to be followed in fire drills and the means of preventing fires in school buildings. The basic procedures to follow in the event of fire are printed on the cover. The important items for school inspection are organized into a four-page checklist at the end. The manual should help the Minneapolis Public Schools continue to carry on what has been recognized as an admirable program of fire safety. This is an area whose critical importance needs no elaboration. This manual would be of special value to a young principal, but every community school would do well to produce such a bulletin of its own.

Portland Public Schools. *The Gifted Child in Portland.* Portland, Oregon: the Public Schools, 1959. 192 p. (No price indicated.)

For the past five years, hundreds of school children in Portland have been involved in an experimental program for gifted children. This bulletin is a study of these experiences. A large number of professional personnel was involved, including faculty members of Reed College. The study included not only the academically gifted, but also those with specific talents, in 14 elementary and seven secondary schools. A careful system of identification, screening and placement was worked out. Both special personnel and material assistance were made available, including a teacher coordinator, steering committee, special interest class teachers, test coordinators, half-day teachers, counselors, college consultants, additional books and materials, a teacher resources survey and a community resources survey.

The report reflects sound scholarship, learning experiences of high quality, and consistent effort to appraise objectively. The merit of the program is proved by the general agreement to grant these activities permanent stature in the school system.

New York City Board of Education. *The Gifted Student in the New York City Schools.* New York: the Board, Bureau of Curriculum Research, June 11, 1959, 91 p., 50¢.

Who are the gifted? How do we designate them? How can they be identified? What do we know about them? These key questions are raised at the start of this bulletin and answered with reference to historical developments, recognized research and current programs in the largest public school system in the nation. Implications for other communities are numerous and clear.

The first section includes a brief check list on educating the gifted. This list could be used by other schools to aid in appraising existing programs or as guidelines in creating new programs. The check list covers identification, programing, curriculum, individual attention and guidance for the gifted. That there are still areas of doubt and controversy is attested to by the listing of some 18 problems requiring further study.

The next three sections deal with the education of gifted pupils at the elementary, junior high and senior high levels. Provisions for these young people include acceleration, special progress classes, enrichment, special courses of study, honor classes, specialized high schools and college-level courses. Much practical help is contained in the final section on teaching and guiding the gifted. An excellent bibliography appears at the end.

—ARTHUR HOPPE, *associate professor of education, Indiana University, Bloomington.*

Significant Books

Column Editor:
Elizabeth Z. Howard
Contributors:
Ole Sand, Edward H. Gilbert,
Melvin W. Barnes

NOTE: A book review editor faces many decisions in the course of the year. Questions of this kind must be continuously raised: Who are the readers of *Educational Leadership*? Who are the persons best qualified to judge and review significant books? How can these persons be persuaded to do the job? And, finally, which of the many truly significant books shall be chosen for review?

During the 1959-60 year an effort has been made to include in the reviews those books which might be of interest to people in a number of educational positions: curriculum workers, administrators, teachers, college professors in teacher education particularly, and those who give leadership in education in various ways. Since ASCD is an organization primarily concerned with curriculum and supervision, the review editor felt that the column had an obligation to give attention (if not commendation) to books related to these areas—especially since the word "curriculum" is currently being used in so many ways.

Among the many significant books received for review, only a few could be chosen. It seems appropriate, therefore, to include in this final issue of the year a listing of some of the volumes that might be considered not only significant but certainly of real interest to many of *Educational Leadership*'s readers. Such a list is given below. In addition, many pamphlet materials, as well as the publications of related NEA groups have been received. The booklet as a significant contribution to the literature of education cannot be ignored, and a separate listing of such materials in the future might have real merit.

List of Important Books Received but Not Reviewed

Beauchamp, George A. *Basic Dimensions of Elementary Method.* Boston: Allyn and Bacon, 1959. 337 p. $5.50.

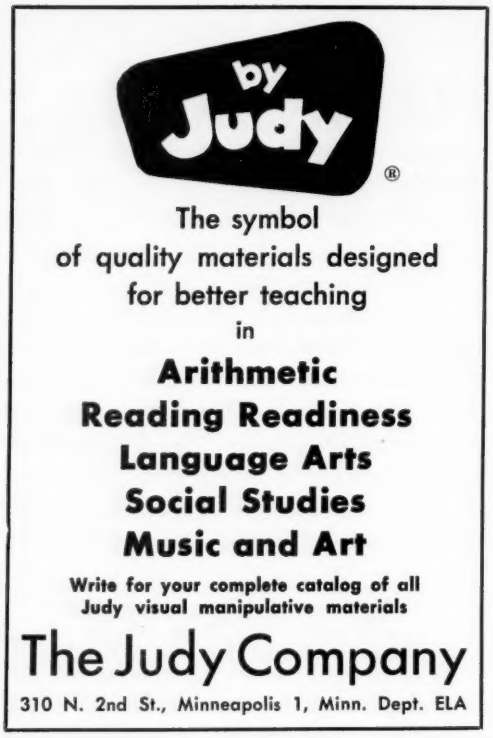
Brunson, May A. *Guidance: An Integrating Process in Higher Education.* New York: Bureau of Publications, Teachers College, 1959. 161 p. $5.25.

Clark, Leonard H., and Irving Starr. *Secondary School Teaching Methods.* New York: Macmillan Company, 1959. 334 p. $5.00.

Cox, Johnnye V. *Educating Thinking Teachers: A Cooperative Venture in the Education of Teachers.* Athens, Georgia: Cooperative Program in Elementary Education, University of Georgia, 1959. 124 p.

Everett, Samuel. *Growing Up in English Secondary Schools: Significance for American Practice.* Pittsburgh: University of Pittsburgh Press, 1959. 187 p. $2.50.

Frederick, Robert W. *The Third Curriculum.* New York: Appleton-Century-Crofts, 1959. 444 p. $5.75.



Gorlow, Leon, and Walter Katkovsky. *Readings in the Psychology of Adjustment.* New York: McGraw-Hill Book Company, 1959. 541 p. $6.50.

Hill, Alfred T. *The Small College Meets the Challenge: The Story of CASC.* New York: McGraw-Hill Book Company, 1959. 215 p. $4.95.

Hodnett, Edward. *The Art of Working With People.* New York: Harper & Brothers, 1959. 177 p. $3.95.

Johnson, Eric. *How to Live Through Junior High School.* Philadelphia: J. B. Lippincott & Co., 1959. 285 p. $3.95.

Kenworthy, Leonard S. *Leaders of New Nations.* New York: Doubleday & Company, 1959. 336 p. $3.50.

Lane, Howard, and Mary Beauchamp. *Understanding Human Development.* Englewood Cliffs: Prentice-Hall, 1959. 482 p. $6.00.

Mulhern, James. *A History of Education: A Social Interpretation.* 2nd Edition. New York: Ronald Press Company, 1959. 721 p. $7.50.

Olson, Willard C. *Child Development.* 2nd Edition. Boston: D. C. Heath & Company, 1959. 481 p. $6.25.

Smiley, Marjorie, and John S. Diekhoff. *Prologue To Teaching: Readings and Source Materials.* New York: Oxford University Press, 1959. 590 p.

Spindler, George D. *The Transmission of American Culture. The Burton Lecture 1957.* Cambridge: Harvard University Press, 1959. 51 p. $1.50.

Strevell, Wallace H., and Arvid J. Burke. *Administration of the School Building Program.* New York: McGraw-Hill Book Company, 1959. 430 p. $7.50.

Thayer, V. T. *The Role of The School in American Society.* New York: Dodd Mead & Co., 1960. 519 p. $6.00.

Tussing, Lyle. *Psychology for Better Living.* New York: John Wiley & Sons, 1959. 489 p.

Wiles, Kimball. *Teaching for Better Schools.* 2nd Edition. Englewood Cliffs: Prentice-Hall, 1959. 328 p. $5.95.

Foundations of Curriculum Planning and Development. *Hugh B. Wood.* *Seattle: Cascade-Pacific Books, 1960. p. xiv–524*

This book, which attempts to give an "intensive overview of all phases of curriculum work," is presented in four parts. Part I includes three chapters discussing the importance of studying the curriculum, the history of curriculum development, and foundations. Part II, which to this reviewer is the most helpful section, considers nine basic questions, each treated in a separate chapter, that must be answered in planning and developing any educational program. The questions are those that most curriculum workers would accept as fundamental, although the central ques-

tion of educational objectives is relegated to a subtopic in the chapter titled, "What Are the Basic Needs of Mankind?" Part III has 16 chapters devoted to "areas of experience." In this part are included chapters on such topics as the core curriculum, social education, science, mathematics, homemaking, agriculture, and even a five-page chapter on the professions. Part IV is a one-chapter section on administration of curriculum improvement.

It takes longer to write a short book than a long one. Admittedly, it is difficult to achieve unity in a 30-chapter opus. This reviewer believes that Wood could have made a more significant contribution to the literature if he had restricted the volume to Part II, where he not only asks important questions but also enunciates clear principles to guide curricular decision-making. His illustrations of these principles from practical experience are good ones. The reader will search in vain, however, for the equally important supporting evidence from the research.

A major weakness of this book, which shows up particularly in Part III, is the out-of-date and sketchy references to the literature and a seeming unawareness of the major forces influencing curriculum in the past decade. A publishing date of 1950 would have been more appropriate than 1960. This reviewer may be unduly sensitive to this defect, having just completed a review of the literature on curriculum for the June 1960 issue of the *Review of Educational Research*. The large-scale group efforts at the national level in science, mathematics, and foreign language; the impact on the curriculum of foundation-supported studies; the upsurge in public interest as a result of the Carnegie Corporation-supported Conant Report, the Rockefeller Fund's "Pursuit of Excellence," and the Ford Foundation financed "experiments"; the U. S. Office of Education and the National Science Foundation programs; ASCD's recent yearbooks and committee reports—one searches in vain for any reference to these current sources from which comes most of the curriculum news these days.

For example, in Chapters 16 and 21 dealing with science and mathematics, not one of the citations carries a date later than 1950. In treating these two subject areas, it seems strange to find no reference to such significant group undertakings as the Physical Science Study Committee, the Biological Sciences Curriculum Study, or the School Mathematics Study Group. If Part III were revised to bring it in line with the 1960's, the treatment that can be given 16 subject fields in a part of one volume is still much too brief and superficial to

Foundations of

Curriculum Planning and Development

by Hugh B. Wood,
University of Oregon

published by
CASCADE-PACIFIC BOOKS
5448 Forty-seventh St.
Seattle 16, Washington
524 p. $6.80
Send for examination copy

be useful to the three groups for whom the book is written—campus classes, school faculties, and extension classes.

To repeat, this reviewer commends Part II of the volume. The questions asked there are basic. The criteria are well formulated. The illustrations of principles from practical experience are good. If to these three positive aspects of this part of the book could be added illustrations from the research and from *current* literature, a more useful contribution to the curriculum would result.

—Reviewed by OLE SAND, *chairman, Department of Elementary Education, Wayne State University, Detroit, Michigan.*

School-Community Improvement. ***D. D. Harrah, John F. Montgomery, Ralph D. Purdy, and L. Craig Wilson.*** *Yonkers-on-Hudson, New York: World Book Company, 1959. 350 p.*

This book relates an unusual and inspiring story of a community's efforts to improve its schools and thereby the community itself. Its four authors were personally and intimately involved in this effort and have written from the vantage point of firsthand experience and knowledge. What they have described represents an approach to school improvement based on the power of self-improvement through cooperative action. This educational drama has its setting in a large county school system in West Virginia and while it covers a three year period, the story is in no way complete. The program of school improvement moves ahead with optimism and will continue to do so as long as vision and leadership exist.

The book is organized into five major sections. The first section discusses the necessity for continuously improving public education in a democracy. Self-improvement as contrasted with imposed change is seen as the desired approach to school improvement. The role of creativity is emphasized and some of the factors related to the ability of groups to succeed in creative endeavors are identified and examined.

Section two develops the background and perspective for the Greenbrier County study. The regional and state setting are characterized including the patterns of leadership existing at these levels. The distinctive physical, economic and social features of Greenbrier County are described, with particular attention to the contrasting patterns of individual leadership existing in the county. The development and operation of the school system during the 20 years under the county unit plan are traced.

The steps taken in designing and developing an improvement program for the schools of Greenbrier County are recounted in section three. The deliberate effort in the initial stage to clarify a point of view about school improvement is stressed. This point of view recognized the community's responsibility for school improvement and the ways and means by which a community could work together most effectively to build better schools. The over-all research design which finally emerged and which became the master plan for the study is outlined. The role of positive leadership in the initiation and growth of the improvement program is emphasized and specifically illustrated.

In section four, guides for educational leadership which emerged in the Greenbrier County situation are formulated. These guides were derived from the relationships which were found to exist between various characteristics of the pop-

ulation and the concepts and attitudes about schools held by the people.

The fifth and concluding section is concerned with evaluation of the progress made and its implication for the future of the program. Results are assessed in terms of leadership development, modifications in school programs and services, community development projects, individual achievement, and changing patterns of educational leadership on the part of teachers, administrators, and the board of education. The broader impact upon the entire state is also noted and appraised. Finally, the contribution of the Greenbrier County study to the theory and practice of school improvement is summarized. In the summation 12 major tasks of leadership in a program of school improvement as derived from the Greenbrier County experience are identified and presented. Then for those interested in the mechanics of the study or who might wish to repeat a particular phase in their own school or community, copies of questionnaires, interview guides, and related materials developed in the study are reproduced in the appendices.

This book is recommended reading for anyone interested in the improvement of schools and the communities they serve. Administrators, boards of education, and other community leaders who are considering launching a program of school improvement will receive both stimulation and practical ideas from this real life drama which has been and is being staged in the hills of West Virginia. To this reviewer the central message of the books is, "You too can do it."

Because of the potential contribution this volume can make to so many people and in so many situations it is unfortunate, in the opinion of the reviewer, that the book's title may fail to inspire

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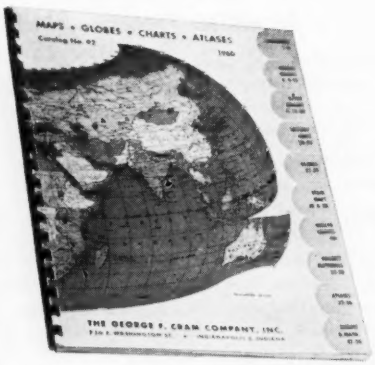

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many people to read it. A book on school-community improvement sounds so much like others employing the school-community dyad in their titles that it will be passed up by many persons, including educators, who if they got into the book would find it most interesting and helpful. It is hoped that despite the limitations of the title the contents of this book will become widely known so that its potential contribution to the improvement of education in this country increasingly can be realized.

—*Reviewed by* EDWARD H. GILBERT, *coordinator, School Improvement Program, Department of Education, University of Chicago, Illinois.*

The Challenge of the Present to Public Education. ***Vivian T. Thayer.*** *Columbus: The College of Education, The Ohio State University, 1958. 41 p.*

This pamphlet contains two addresses delivered at Ohio State University as the Boyd H. Bode Memorial Lectures. The first is entitled, "Dangers Confronting Education Today"; the second, "The Task of Today's Schools."

In the first lecture Mr. Thayer takes note of the gathering storm of criticism of public education. He finds a growing disposition to use the schools for propaganda purposes. At the same time, he detects a tendency within the teaching profession itself to lose its devotion to the intellectual discipline indispensable in a democratic society.

The author believes there is a lack of clarity and conviction about educational aims and weakness in the ability to provide an education equal to the challenges confronting us. In examining the dangers, the author uses as reference points two principles that have guided American education and given it its unique character: the principle of serving the public as a whole without favoritism or partiality and the principle of separation of church and state. Mr. Thayer feels that confusion about the meaning and significance of these principles, as well as certain deliberate attempts to undermine free public education, places the schools in grave danger.

In his second lecture, Mr. Thayer calls attention to a "transformation in attitude" of the public toward the schools that has come about in something less than a decade. After briefly rehearsing the major criticisms of education he turns to the "distinctive concerns" of schools in a democratic society. He selects several characteristics of democracy and illustrates their application in teaching method and content. Mr. Thayer calls for the development of a "discipline, intellectual and moral, relevant to the perpetuation of an open and free society."

—*Reviewed by* MELVIN W. BARNES, *superintendent of schools, Oklahoma City, Oklahoma.*

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